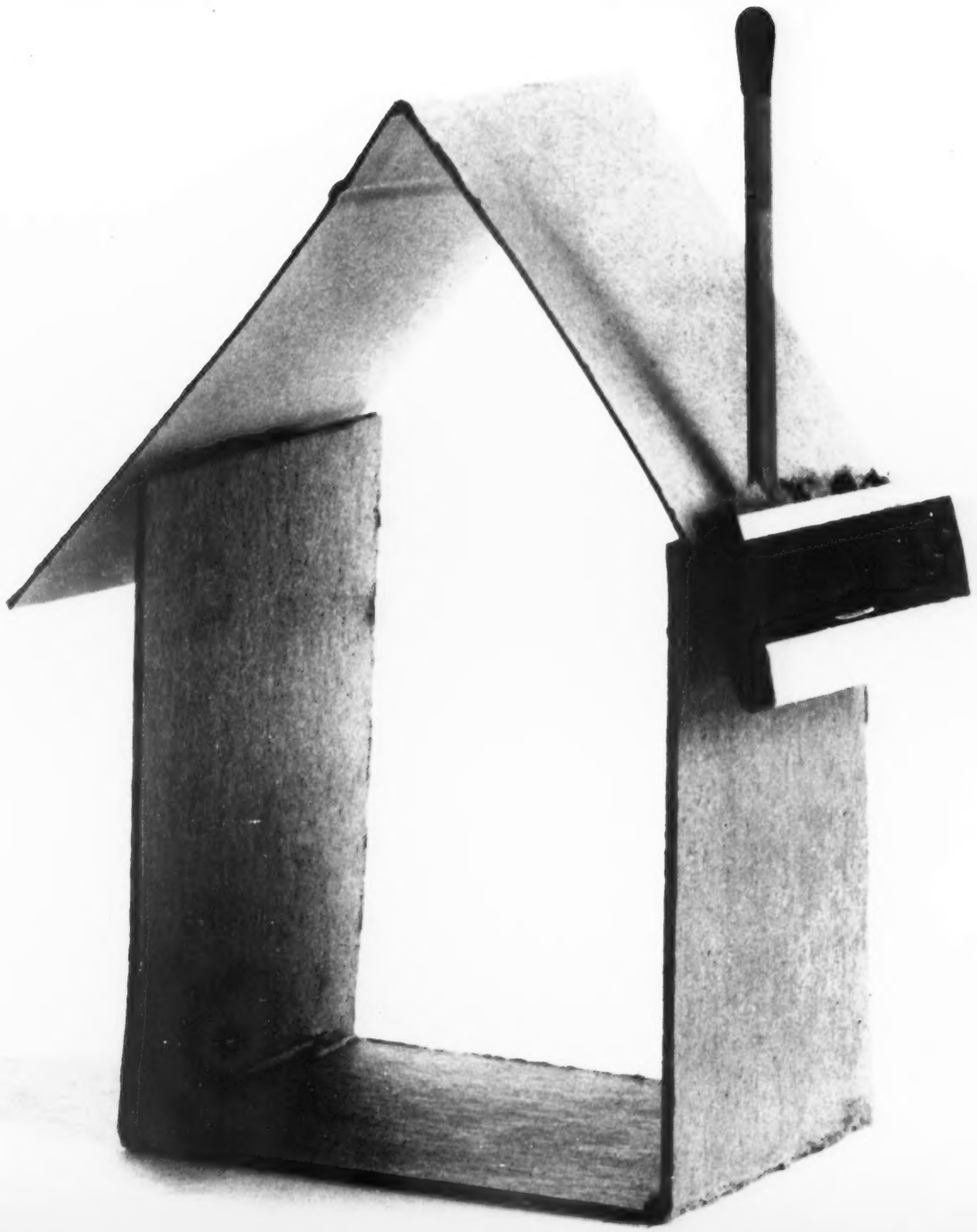
FEBRUARY 1961 VOLUME 3 NUMBER 2

architectural & engineering NEWS



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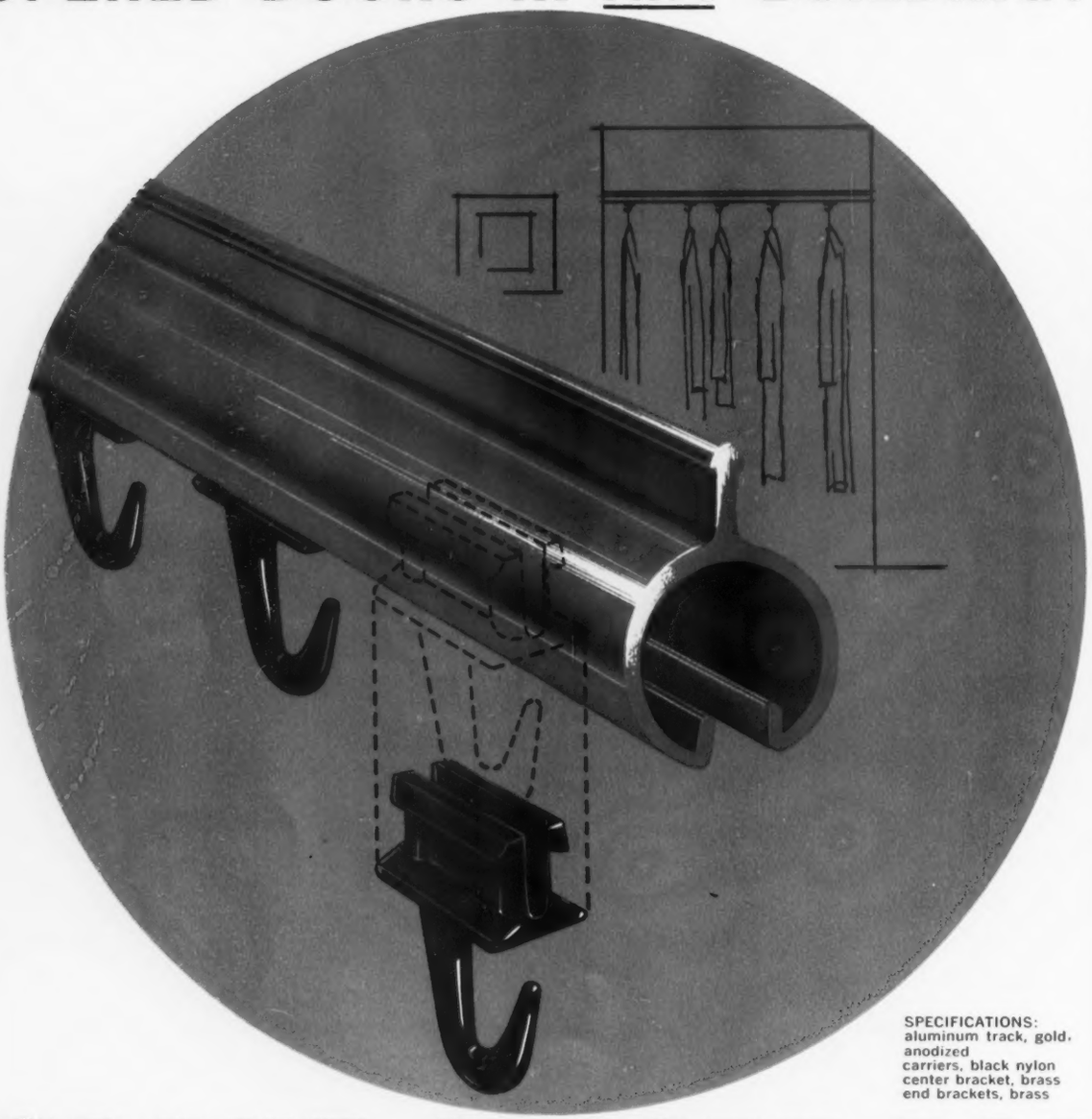

SPECIFICATIONS:
aluminum track, gold, anodized
carriers, black nylon
center bracket, brass
end brackets, brass

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BPA

architectural & engineering
NEWS

For our February cover, Tony Palladino highlights our article on fire safety and protective devices, appearing on page 17. Photo: Ronnie Rojas.

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GAZETTE

Clifford F. Young, partner in McAuliffe, Young & Associates, was elected President of the Hawaii Chapter, AIA. Other new officers are: Gordon A. Bradley, Vice President; George V. Whisenand, Secretary; Paul D. Jones, Treasurer. Directors are: George J. Wimberly, Kenji Onodera, and outgoing President Frank S. Haines.

Alanson H. Sturgis, President, Sturgis Associates, Inc., Architects and Engineers of Boston, Mass., announces that upon the retirement of William B. Coffin and S. Winthrop St. Clair, the following have been elected as directors and officers of the Corporation: William Bradford Sprout, Jr., AIA; Perry D. Lord, AIA; Maarten D. Den Hartog, AIA; and as consultants, William B. Coffin, AIA; William Stanley Parker, FAIA; and J. P. Den Hartog, Professor Mech. Eng.

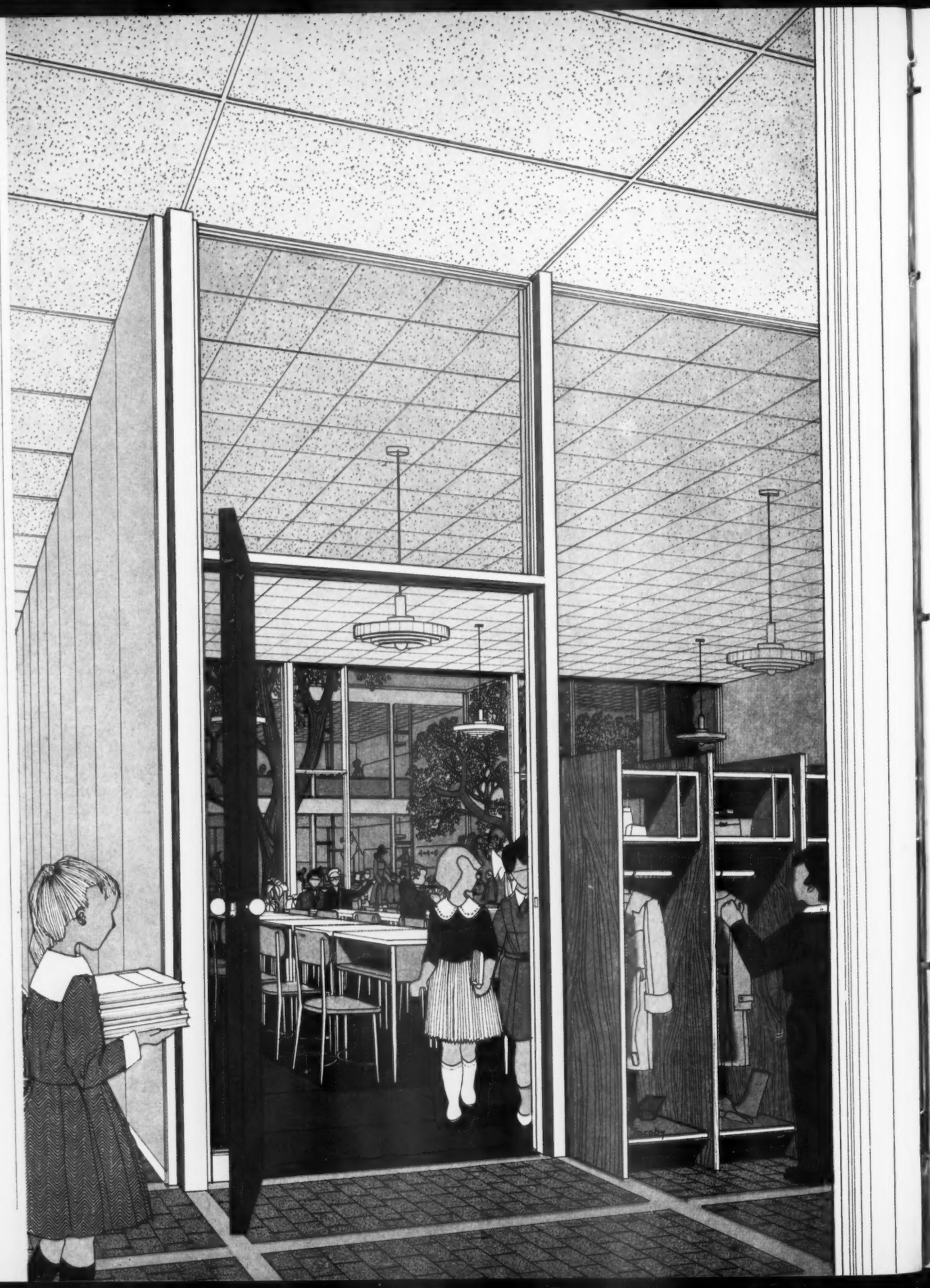
The American Concrete Institute has re-emphasized its policy of taking the Institute to the members by creating the staff position of Assistant Secretary with primary responsibility to develop chapter activities. The new staff job, authorized by recent action of the ACI Board of Directors, has been assumed by Robert E. Wilde who had been managing editor of the Institute's monthly *Journal* since October 1952. In announcing the new staff position, ACI President Joe W. Kelly, Berkeley, Calif., also disclosed the promotion of Robert G. Wiedyke to Managing Editor and the appointment of George D. Nasser as Assistant Editor.

George T. Rockrise, of the firm of Rockrise and Watson, Architects of San Francisco, has been elected President of the Northern California Chapter of the AIA. Rockrise succeeds President Richard S. Banwell, partner in the firm of Reid, Rockwell, Banwell & Tarics of San Francisco. Other officers elected were: Cabell Gwathmey, Vice President; Henry Schubart, Jr., Secretary; Alton S. Lee, Treasurer; and Directors Richard S. Banwell, Hervey Parke Clark, Eugene E. D. Crawford, Robert D. Marquis and Clement A. Mullins.

The National Institute for Architectural Education announces its officers for 1961: Chairman of the Board of Trustees, Sidney L. Katz; Vice Chairman, Jose A. Fernandez; Secretary, Lathrop Douglass; Treasurer, Daniel Schwartzman. Trustees: Arthur S. Douglass, Jr., B. Sumner Gruzen, Caleb Hornbostel, L. Bancel LaFarge, H. Dickson McKenna, John C. B. Moore, J. Kellum Smith, Jr., and Otto Teegen.

Columbia University has announced the appointment of Samuel G. Wiener, Jr., as adjunct assistant professor in the School of Architecture, to teach classes in visual fundamentals—design and drawing—in the first two years of architectural studies.

Circle 101 for further information →



From Armstrong: a giant step in fire-retardant ceilings

Now, for new schools: two types of Acoustical Fire Guard–12″ x 12″ tiles and exclusive new lay-in units

In the school corridor on the left you see the new Armstrong Acoustical Fire Guard *lay-in* ceiling system. The classroom has a ceiling of Acoustical Fire Guard *tile*.

This was the first time-design-rated acoustical tile. Since its development two years ago, millions of feet have been installed.

The new lay-in system is another great advance in fire-retardant ceilings.

Three-hour U.L. rating

The Armstrong Acoustical Fire Guard lay-in ceiling system combines the advantages of an exposed grid system—economy and fast installation—with those of a time-design-rated acoustical ceiling. It protects the structural components of a building by resisting the dangerous transmission of heat from one area to another. Underwriters' Laboratories, Inc., has given this new ceiling system a beam protection rating of three hours. Floor-ceiling assemblies combining this system with bar joist and slab, as well as with beam and steel floor construction, earned two-hour ratings.

Resists 2,000-degree heat

The Acoustical Fire Guard lay-in ceiling system achieves its remarkable fire-retardant quality through two new developments.

The first is the Acoustical Fire Guard lay-in unit. Because of its composition, this new lay-in unit can withstand exposure to flames and 2,000-degree heat. It also offers excellent acoustical and sound attenuation properties.

The second element is a new suspension system capable of withstanding the same extreme conditions as the lay-in unit. Called the Armstrong Acoustical Fire Guard Grid Suspension System,* it is designed to accommodate the expansion of both main runners and cross-tees, and thus to hold the lay-in unit securely in place when exposed to fire. The Fire Guard Grid Suspension System is the first to be combined with a lay-in ceiling unit to offer rated fire protection. Both the lay-in unit and the grid system carry the U.L. label.

Economy in time and money

In most cases, the new lay-in ceiling system will cost even less than ordinary plaster ceilings on metal lath. And like Fire Guard tile, it can save builders up to *two months'* construction time because it goes in dry. This is especially important in school construction. Schools *must* open on time. Fire Guard helps meet deadlines – at savings of thousands of dollars.

The Acoustical Fire Guard lay-in ceiling system is now available in both a Fissured and the popular Classic design. There are two nominal sizes: 24″ x 24″ x ⅝″ and 24″ x 48″ x ⅝″.

For more information about either Acoustical Fire Guard tile or lay-in units, call your Armstrong acoustical contractor (he's in the Yellow Pages under "Acoustical Ceilings") or your nearest Armstrong District Office. Or write to Armstrong Cork Company, 4202 Ryman Street, Lancaster, Pennsylvania.

* Patent Pending

Armstrong ACOUSTICAL CEILINGS

First in fire-retardant acoustical ceilings

Architectural design and rendering by Helmut Jacoby

Circle 101 for further information

GAZETTE

The Societé Des Architectes Diplomés Par Le Gouvernement has announced the election of officers for the Groupe Americain of the SADG: President, Lucien David; Vice President, Lewis G. Adams; Secretary-Treasurer, Charles Rieger. Other members of the Board of Trustees are: Lyman Dudley, Jacques E. Guiton, Caleb Hornbostel, Julian Clarence Levi, John C. B. Moore, Alexander P. Morgan.

office announcements

Marcel Sedletzky, formerly an associate of Victor Gruen Associates in Los Angeles, later an associate of Robert R. Jones, Architect and Associates of Carmel, Calif., announces the opening of an office for the general practice of architecture and planning under the firm name, Marcel Sedletzky, Architect and Planner, P. O. Drawer 4917, Carmel, Calif.

John Brisbin Rutherford and Constantine C. Chekene wish to announce their partnership as Rutherford & Chekene for the professional practice of Civil and Structural Engineering at 259 Geary St., Room 406, San Francisco and 160 Main St., Los Altos, Calif.

Rhuel A. Andersen and Lavern C. Koerwitz, Consulting Engineers, have announced that William H. Hawes, former district engineer for the AISC, has joined the firm as a partner. They will continue structural engineering under the firm name of Andersen, Loerwitz and Hawes at 655 Broadway, Denver, Colo.

Harley, Ellington, Corwin and Stirton, Inc., is the new name of the Detroit firm of Architects and Engineers. The name change represents the addition to Harley, Ellington and Day, Inc., located at 153 East Elizabeth St., Detroit, Mich.

Three new partners have been named in the Seattle architectural firm of Naramore, Bain, Brady & Johanson. The newly named partners are: A. Ernest Hennessy, Eric C. Rising, and William M. Svensson. The firm's name will remain the same.

Richard G. Stein announces that he is withdrawing from the firm of Katz, Waisman, Blumenkranz, Stein, Weber-Architects Associated, and has established offices at 441 Madison Ave., New York 22.

Architect Richard Dante Messineo with offices at 6546 Hollywood Blvd., Los Angeles 28, announces the formation of a nation wide association with Joseph H. Messineo, AIA, 4-6th St. South, St. Petersburg, Fla., Joseph H. Messineo, AIA, New York City, and Thomas Federico, Paterson, N.J.

Lowell Brody, RA, has been made an associate of Ketchum and Sharp, Architects, 227 East 44 St., New York 17.

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(When you specify Tomic Tap-on EMT Fittings)

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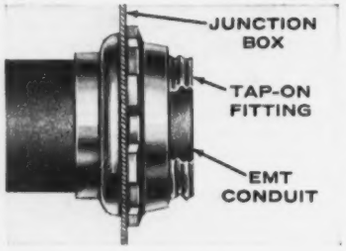
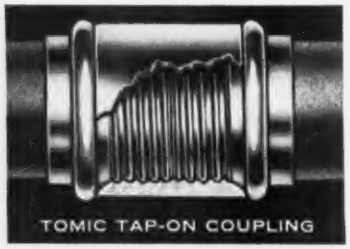
Tomic Tap-On Fittings feature a patented pre-flex stainless steel locking ring, designed to grip thinwall conduit securely at multiple points providing a positive vibration-proof ground that won't shake, jar or work loose. No tools are required . . .



. . . just a tap or a push, and fitting becomes an integral part of the thinwall . . . automatically puts standard pipe thread on EMT conduit! Conduit locks flush with edge of fitting for tight, neat connections at junction boxes because Tap-Ons are the only thinwall fitting that permits EMT conduit to actually enter junction box.

And for perfect couplings anywhere in the raceway—long runs, saddles, bends, corners, etc. specify Tomic Tap-On Couplings! Illustrated at left, the complete Tomic Coupling consists of two Tap-On Fittings plus a sleeve. All fittings screw together and permit change in raceways from EMT to rigid, flex, or any type cable without special adaptors.



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FORECAST

CONSTRUCTION REVIEW AND OUTLOOK FOR 1961*

Construction volume, after faltering in 1960 for the first time since the end of World War II, is expected to rise to an all-time peak of $76.8 billion in 1961, thereby providing a major thrust in helping boost the national economy out of a downturn for the fourth time in the postwar years.

This estimate, announced recently by the Associated General Contractors of America, is about 3½ per cent above the $74.1 billion total estimated for 1960, and also tops the previous dollar volume record of $75.5 billion of construction put in place in 1959. The forecast in the AGC's annual review and outlook statement is divided into $57.275 billion of new construction and about $19.5 billion in maintenance and repair operations, compared with the 1960 totals of $55.1 billion and $19 billion, respectively.

Basic assumptions attached to the 1961 outlook are that over-all economic activity will turn upward in the second half of the year after overcoming the current lag in the first half; that construction costs will remain stable; that no prolonged work stoppages will occur in basic industries; and that international complications will not adversely affect domestic construction.

Review of 1960 construction

Construction volume in 1960 showed the first annual decline in dollar value—about 2 per cent—since the end of World War II, with the loss in momentum due principally to a sagging residential market. The outstanding features of 1959 construction activity —a spurt in housing and steadily declining industrial building—were reversed, with a sharp drop in residential volume and a steep climb in industrial building.

New private construction, although falling 2 per cent, continued to dominate the scene with a total of $38.9 billion, while public construction totaled $16.2 billion, showing the first decline in public works in the postwar period.

The 10 per cent drop in private residential building reflected a decline in housing starts that began in the fall of 1959 under the pressure of a tightening supply of mortgage funds and increasing interest rates. By year's end, the housing market had not responded appreciably to efforts to ease credit conditions. On the other hand, nearly all private nonresidential categories increased, with the total exceeding $10 billion for the first time for a 14 per cent rise. Industrial building made a spectacular 38 per cent comeback with an $800 million increase for a total of nearly $3 billion. Commercial building rose to more than $4 billion; religious construction reached $1 billion for the first time, and moderate gains were made in the private educational and social and recreational categories.

Outlays for public utilities reached $5.3 billion, a 6 per cent increase, sparked by increased spending for gas and telephone and telegraph facilities. Farm construction fell 5 per cent to $1.3 billion. The slight decline in public construction was accounted for by drops in public housing, highways and military facilities.

Average construction costs rose approximately 3 per cent in 1960, while wages paid by contractors increased by an average of 4.7 per cent. The prices of materials remained fairly stable during the year.

Factors in 1961 construction

The Associated General Contractors of America regards the outlook for construction in 1961 as generally favorable for the following principal reasons:

1. The needs for all kinds of physical facilities—both private and public, and both residential and nonresidential—remain large, with serious backlogs of needed construction in some categories especially. After the slight decline in construction activity in 1960, the pressure of the needs will be greater.
2. There should be a considerable pickup in residential construction, both private and public, in the coming year, if only for the reason that the country's rapidly growing population urgently requires more houses and apartments. The sharp decline in housing in 1960 accentuates this need, and is expected to prompt increased governmental efforts to stimulate activity in this field. The new Administration is committed to sponsoring legislative measures to expand residential construction.
3. The easing of credit conditions in recent months may be expected to have a stimulating effect on construction in general, and housing in particular. While the lowering of interest rates by the Federal Reserve Board did not help residential construction in 1960, that was due to the relative scarcity of mortgage money. However, another action by the Federal Reserve Board last fall—by which some $1.3 billion of additional reserves was made available to the nation's banks—will serve to stimulate the flow of money and increase the availability of mortgage funds.
4. The second major factor in the tapering off of construction activity in 1960 was the curtailment of highway construction. It may be confidently expected that the new Administration and the new Congress will take whatever steps are necessary to put the long-range highway program back on schedule. This will not only mean more road construction, but it will also stimulate much construction of other kinds, which always follows the building of highways.
5. Outlays for new plant and equipment will probably rise in 1961. Roughly one third of capital investment is spent for construction.
6. The record amount of public bond issue proposals approved in 1960 will lead to an expansion of public works. While the effects of these bond issues will be felt mostly in later years, they will have some influence on public construction during the coming year.

** Based on a report issued by the Associated General Contractors of America, Inc.*

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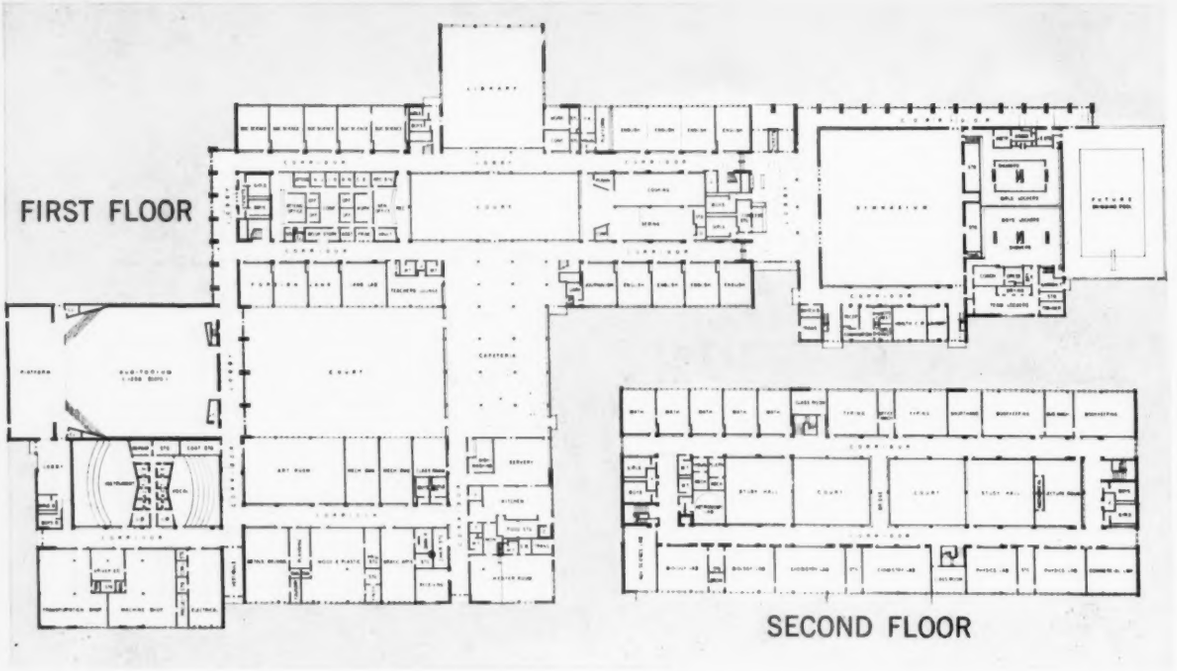

AT PARMA...the size and scope of the new Valley Forge High School put special emphasis on the need for an efficient Time Control and Program system, free of operational and maintenance problems. This lead to the selection of Stromberg timing. Dependably correct clocks and signals are assured by the precision Master Time Control. This modern time system operates from ordinary lighting circuits. Complete uniformity of time is maintained by supervisory pulses each hour and every 12 hours over a control circuit. Stromberg maintains installation and maintenance service throughout the U.S.A.

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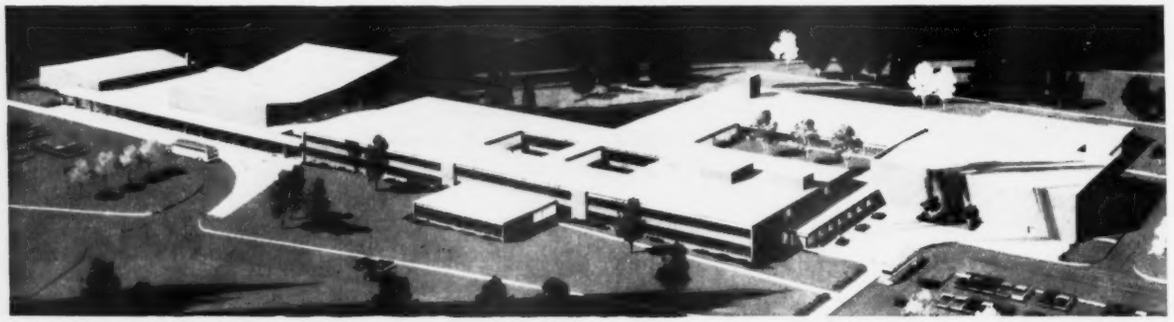

PLANNING THE NEW SCHOOL

A population explosion at Parma, Ohio completely overtaxed secondary school facilities. Rather than expand the old school, construction of the new Valley Forge High School was started in May of 1960 and scheduled for completion in advance of the school year beginning September 1961 at a completed cost of $4,000,000. The new structures — containing 70 classrooms, adequate library, science, language, shop and music facilities, as well as an ample auditorium, cafeteria and gymnasium — is planned to accommodate 2,000 students. Despite these impressive new facilities, plans are now being made for a third secondary school.

The Parma Public Schools, Mr. Paul W. Briggs, Superintendent — were advised in their choice and installation of Time Controls by:

Fulton, Dela Motte, Larson, Nassau & Associates—Architects
Mr. Vincent A. Lombardi — Electrical Engineer
The Doan Electric Company — Electrical Contractor

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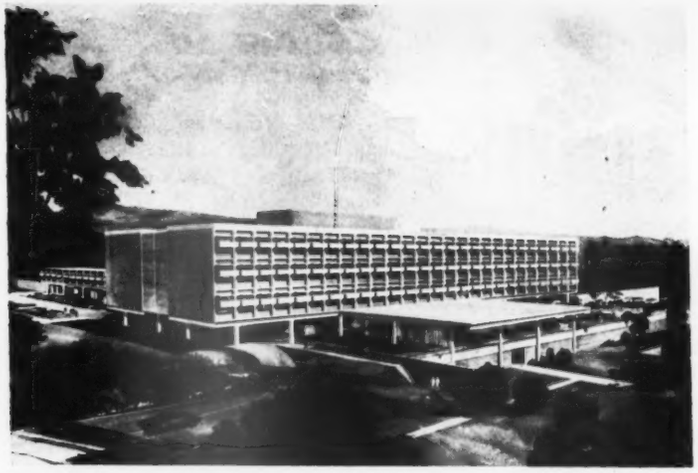

The architects of the Physical Rehabilitation Center on the West Medical Campus of UCLA took advantage of a hilly site to provide direct entrances on three of the five levels and designed the 112,000 sq. ft. structure so that it will blend into the natural terrain. The reinforced concrete building consists basically of a three-story east-west tower crossing over a two-level north-south base. Design of the fully air-conditioned unit follows the concept of horizontal integration of teaching and treatment areas used in the main Medical Center. Classroom areas are so located that a subject can be taught directly adjacent to the area where patients pertaining to that subject are treated. Architects and engineers: Welton Becket and Associates, Los Angeles.

The new Norfolk Medical Tower contains modern air-conditioned offices for nearly 100 physicians and dentists on a six-acre, tidewater site adjoining the new Norfolk General Hospital in the Medical Center redevelopment area. The building is marked by boldly exposed supporting columns; subdued gray exterior panels; and an arcade-like entrance on all sides created by setting back the ground-floor walls. A one-story commercial building (background) contains a restaurant and other related shops. Parking for 450 automobiles is provided on the site. Architect: Vincent G. Kling, FAIA, Philadelphia.

A|E NEWS

AIA portfolio

"Re-designing Urban America" is the theme of the 1961 annual convention of *The American Institute of Architects* which will be held in Philadelphia, April 24 to 28, and is expected to attract some 2,000 architects from all over the country.

Keynote speaker will be John Kenneth Galbraith, Harvard economist and author of "The Affluent Society" and "The Liberal Hour." Mr. Galbraith will start the discussions on Tuesday, April 25, with an outline of the imperative economic need to revitalize our cities.

On Wednesday morning, April 26, Lewis Mumford and Bruno Zevo will discuss the aesthetic, cultural and sociological aspects of the city. Mumford, a philosopher and critic, is the author of many books on cultural and architectural subjects, including "Sticks and Stones" and "The Culture of the City." Zevi, architectural historian of the University of Rome, Italy, will come to Philadelphia specially for this occasion.

Edmund Bacon, executive director of the Philadelphia Planning Commission, will head a comprehensive presentation on "Re-designing Downtown Philadelphia." Joining him will be Willo von Moltke, Roy Larson, FAIA, Oskar Stonorov, FAIA, Vincent Kling, FAIA, Robert Geddes, and I. M. Pei. Each of these architects will demonstrate his extension of the design structure of the Philadelphia plan.

Planners, municipal officials, engineers, landscape architects and members of the other design professions concerned with urban design and redevelopment will be invited to attend the convention.

In addition to the professional program, the convention features a special concert by the Philadelphia Symphony Orchestra under the baton of Eugene Ormandy, a number of special exhibits and social events, and over 90 exhibitors of the Producers' Council.

As in other years, there will be an awards luncheon in honor of the recipients of AIA's Honor Awards and Gold Medals; a President's Reception; and the traditional Investiture of Fellows of The American Institute of Architects.

Chairman of the Philadelphia AIA Host Chapter Committee, which is busy with convention preparations, is Beryl Price, assisted by Paul C. Harbeson, Harry W. Peschel, Charles E. Peterson, and Herbert H. Swinburne, all Philadelphia architects.

CEC/AISC/ACI items

A new booklet, "Preparation of a Consulting Engineer's Firm Brochure," has just been published by the *Consulting Engineers Council,* national organization of consulting engineers in private practice, with headquarters in Springfield, Ill. The 24-page booklet is being made available to member firms, as a "blueprint" to follow in compiling individual firm brochures.

"As far as we know," said Larry N. Spiller, executive secretary of the Consulting Engineers Council, "this is the first publication of its type to be prepared for the engineering profession."

The booklet was drafted by a committee headed by Ray O. Maurseth, of Maurseth, Howe, Los Angeles consulting engineering firm.

It contains excerpts and ideas compiled from actual published brochures of a number of consulting engineering firms throughout the country. It explains that it is not trying to supplant the services of a professional advertising or public relations firm which prepares brochures; rather it is the purpose of the booklet to acquaint the consulting engineers with the possibilities of this facet of public relations.

"Plastic Design in Structural Steel," a series of six lectures, are being presented for a second time in the New York City area by the *American Institute of Steel Construction,* in cooperation with the Assn. of Consulting Engineers, and the Metropolitan Section of the American Society of Civil Engineers. The program which started on January 10 will continue for six weeks on consecutive Tuesdays. To date approximately 2,500 architects and engineers have attended the lecture series given nationally within the past two years. The new structural design method enables engineer's to utilize steel's strength more fully than before in one and two-story buildings and produces considerable savings in time and steel tonnage. Further information on the series may be had from the American Institute of Steel Construction, Inc., 101 Park Ave., New York 17, N. Y.

A structural design competition is

(Continued on page 8)

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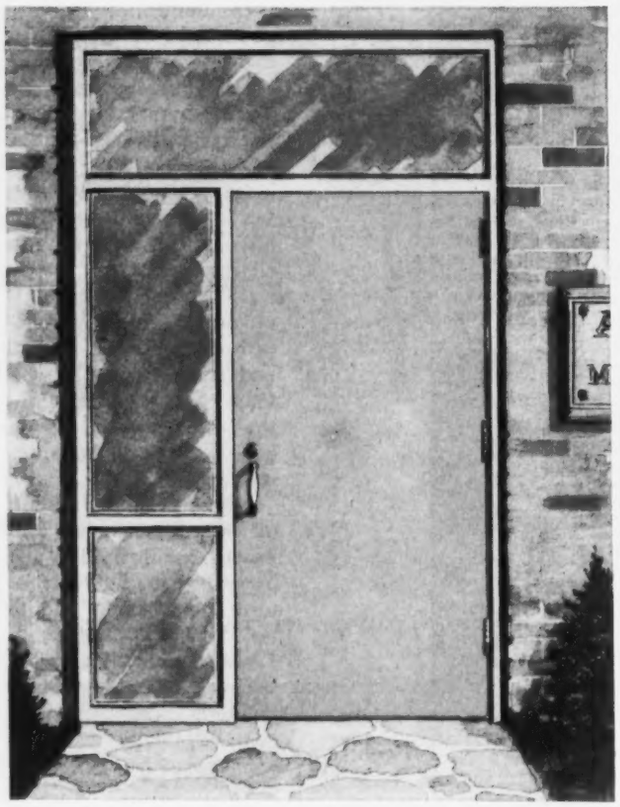
PyroDors *save money* because they are production-line units — *save time* and costly delays because they are stocked in your area for prompt shipment.

The only Steel Door available with a lifetime guarantee.



How To Figure Your True Cost!

$$\frac{\text{Initial Cost} + \text{Maintenance Cost}}{\text{Years of Service}} = \text{COST PER YEAR}$$

Example A — Typical Steel Door

$$\frac{\$50 \text{ (Approx. Cost)} + 20 \text{ yrs. @ } \$5 \text{ per year} = \$100}{20 \text{ years before replacement}} = \text{COST PER YEAR } \$7.50$$

Example B — D & H PyroDor

$$\frac{\$60 \text{ (Approx. Cost)} + 50 \text{ yrs. @ } \$2 \text{ per year} = \$100}{50 \text{ years or Longer*}} = \text{COST PER YEAR } \$3.20$$

*PyroDors are guaranteed for the life of the building in which they are originally installed.

SAVINGS PER DOOR $4.30 per year

New 20-page Catalog gives complete details, specifications and UL Rating Chart for Class A, B, or C Labels. Write for your copy now. *Consult the Yellow Pages or Sweet's Architectural File for your nearest D & H Distributor.*

NOTE: Principal maintenance cost is assumed to be painting. Even on exterior openings exposed to severe weathering PyroDors do not usually require painting more than once in 5 years, compared to frequent painting on others in similar situations.

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A|E NEWS

(Continued from page 7)

an added attraction to the 57th Annual Convention of the *American Concrete Institute* to be held at the Chase-Park Plaza Hotel, St. Louis, Mo., on February 20-23. The competition is open to any fourth or fifth year architectural student attending Washington University (St. Louis) or the University of Illinois.

The ACI convention program proper includes one general session and six technical sessions. Twenty technical papers are scheduled for presentation during the four day meeting.

Subjects of the papers to be presented include prestressed and preloaded concrete mine pillars, Mitchell Park Conservatory (Milwaukee), analysis of stresses and the load carrying capacity of the Lincoln Boulevard Bridge over Lost River, Idaho; and supporting structure for retractable roof of Pittsburgh Public Auditorium. Other topics are water-cement ratio versus strength, chemical prestressing of concrete elements using expanding cements, load tests on patterned concrete masonry walls, and quality control of concrete on the job. The design session will offer papers on: a controlled-deflection design method for reinforced concrete beams and slabs; theory and analysis of prismatic folded plate structures; rectangular concrete stress distribution in ultimate strength design; and tie requirements for reinforced concrete columns.

The next qualifying examination of the *American Sanitary Engineering Intersociety Board* will be held on May 18, 1961. The examination will consist of three parts, one dealing with basic engineering sciences, a second dealing with the specialty area selected by the applicant and the third, an oral examination. The areas of specialty recognized by the Board are: Air Pollution Control, Industrial Hygeine, Public Health, Radiation Hygeine and Hazard Control, Water Supply and Waste Water Disposal. For consideration of admission to the examination, applications must be received by April 1, 1961. Application forms can be obtained by addressing: American Sanitary Engineering Intersociety Board, Inc., 33 West 39th St., New York 18.

West coast report

Three nationally known architects have been named by Governor Quinn of Hawaii and the State Capitol Archi-

tect Advisory Committee to act as critics on plans for the 50th State's proposed capitol building being designed by Belt, Lemmon & Lo, Honolulu, in association with John C. Warnecke & Associates San Francisco. The three design critics are Pietro Belluschi, FAIA, Boston; Leonard L. Hunter, Washington, D. C., and George J. Wimberly, FAIA, Honolulu. Belluschi is Dean of the School of Architecture and Planning, Massachusetts Institute of Technology, and a practicing architect. Hunter is assistant commissioner for design and construction with the General Services Administration in Washington, D. C., Wimberly is a partner of Wimberly & Cook, and was named by the Hawaii Chapter, AIA, as its representative.

"We feel these critics represent the maximum of experience in redevelopment work and public housing design, as well as being recognized for their maturity and foresight," the Capitol Advisory Committee said in making the announcement.

Five design teams, including one from Paris, one from Tokyo, and three from the United States, won the finalist positions in the $250,000 Civic Center Fountain competition being held by the City of Seattle, Washington.

One of the five will be chosen March 21, 1961, to design and build the fountain which will be installed for the opening of Century 21 Exposition in April, 1962.

The winning teams, named by Mr. J. Lister Holmes, Professional Advisor of the Competition, are: *Paris:* Alain LeNormand, Architect, Adam, Sculptor; *Tokyo:* Hideki Shimizu, Architect, Kazuyuki Matsushita, Architect; *Birmingham, Mich.:* Alan Hamilton Rider, Architect; Glen Michels, Sculptor; *Pomona, Calif.:* Richard A. Moore, Landscape Architect, George Hall, Sculptor; *Birmingham, Mich:* W. Byron Ireland, Architect, Rostislav George Spacek, Architect. The teams were chosen by a jury of award composed of Nathaniel A. Owings, FAIA, of San Francisco; Bernard Rosenthal, sculptor, New York; Garrett Eckbo, ASLA, landscape architect, South Pasadena, Calif., and H. Peter Oberlander, Prof., School of Architecture, University of British Columbia, Vancouver, Canada. The competition has been approved by The American Institute of Architects, American Society of Landscape Architects, National Sculpture Society, and the *Union Internationale Des Architectes.*

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HVAC APPLICATIONS
A REVIEW

AC survey

Lowered productivity and time lost during hot weather account for losses of more than $100 per man per year in the average industrial plant, according to a survey by Engineers, Inc., of Newark, N. J., an industrial engineering and consulting firm.

The survey showed that from $70 to $220 is lost per man per year, with a mean figure of $108. According to a similar study by the General Services Administration, only a seven-minute saving in time per employee per day—an average $60 per year—will more than pay for the expense of an air-conditioning system.

The Engineers, Inc., survey found that, in addition to absenteeism and decrease in production, hot weather also brings about a greater incidence of work breaks, later starting and earlier stopping time for machines and total shutdowns on hot days. The survey found that there is some correlation between hot weather and increased number of accidents, that equipment damage is greater and there are more production rejects. All these factors were reduced significantly when air-conditioning was installed.

The engineering organization conducted its study among a cross-section of light manufacturing and assembly plants in the metropolitan New York area, considering both office and factory personnel. Aim of the study was to determine the difference in performance at temperatures above and below 71° F (the figure set up by the American Society of Heating and Air-Conditioning Engineers as the optimum efficient working temperature in this area).

In plants that were air-conditioned, performance records before and after were studied. In plants without air-conditioning, performance records were studied for days above and below 71°. These figures were further checked by comparing performances in plants with similar operations.

This survey is corroborated with the results achieved by the GSA. For its survey found that air-conditioning resulted in a 9.5 per cent increase in work production, a .9 per cent decrease in errors and 2.5 per cent decrease in absenteeism.

The GSA survey also points out that a work production increase of only 1.5 per cent will pay for the cost of air-conditioning through savings in salaries.

Ceiling air distribution system

A low-velocity method of introducing conditioned air into a room has been introduced which utilizes a fibrous glass supply tube with a perforated metal bar diffuser for an even distribution of air.

This proprietary system was designed to combine the positive delivery of air through self-insulated tubes with full wall-to-wall diffusion which practically eliminates "dead air spots." The result is a low cost, attractive ceiling installation according to its producers. Air delivery through this new system is uniform and is easily controlled by adjusting the continuous dampers.

The introduction of air through ceilings for cooling and heating purposes has long been recognized as a most desirable method. However, existing methods have many deficiencies. High air velocities from ordinary ceiling diffusers can create drafts, dirt and noise. In addition, air distribution from above-the-ceiling plenums generally requires oversized conditioning units to overcome thermal and air leakage through the plenum surfaces.

The system also functions as a support for a variety of ceilings including the luminous type. Therefore, it makes possible a complete ceiling "package" installation which will provide built-in air distribution, noise control, thermal efficiency, and lighting.

School AC design experiment

The first stage has been completed in what is considered a unique demonstration to prove that new, fully air-conditioned schools can be built at a cost no greater—and probably even *less* than—non air-conditioned schools.

The experiment, in Pinellas County, Fla., promises to have far-reaching effects on school design all over the country.

Elsewhere in the U.S., more than 200 fully air-conditioned public schools have been completed, and in many cases architects and educational officials have reported that they seem to cost no more than non air-conditioned buildings, when designed for air-conditioning at the outset. But this, in the nature of things, has remained a matter of opinion.

In 1958, the Syracuse School Board (as did school boards in a number of other cities) commissioned a firm of architects to make detailed studies, based on completed alternative designs, of the relative cost of a school with and without air-conditioning, and came up with a theoretical saving of $68,995 on a $2,033,000 building. Syracuse went ahead with the air-conditioned school, which was built at a cost close to the original estimate, but what the actual cost of the non air-conditioned school would have been was not, and could not be determined with equal certainty.

Resolving even this doubt, Pinellas County is now actually building two such comparison schools—schools designed to identical educational specifications down to the last detail, by different architects, each striving to produce the maximum in educational value per building dollar. As impartial referees, officials of the Pinellas County Board of Public Instruction made sure in advance of bidding on the two jobs that there were no significant differences between them not directly attributable to, and practicable only with, year 'round air-conditioning.

The Pinellas Park Junior High School, designed by architect Charles L. Colwell, AIA, is an attractive functional school designed in accordance with regular Florida practice. It is a cluster plan for maximum breeze cooling and is being built without air-conditioning. The base bid for this school (less the cost of a sewage lift station not included in the base bid for the comparison school) was $584,749. On the basis of nominal area, as figured by the Florida State Board of Education, this works out to a cost per sq. ft. of $8.80—or somewhat below the average for schools in the St. Petersburg area.

The Oak Grove Junior High School, designed by architects Bruce and Parrish, with the assistance of technical consultant Henry Wright of New York City, employs a more compact scheme made possible by air-conditioning. Healy & Latimer, St. Petersburg, served as consulting mechanical engineers to the architects on both projects. The base bid for the Oak Grove School, was $582,900. This was $1,849 less than the corresponding figure for the non-air-conditioned school. (The possibility that the difference was due to the time lapse between the bids was precluded by a small, but definite *increase* in the construction cost index during the interim.) This meant that Pinellas County is to get somewhat less gross area (66,175) as compared with (66,468) sq. ft., for somewhat more per sq. ft. ($8.89) instead of ($8.80), but at a lower cost over-all. Educational space in the two schools is virtually identical, being 49,159 sq. ft. in the air-conditioned Oak Grove School, and 47,880 sq. ft. in the non-air-conditioned Pinellas Park Buildings.

When various alternates involved in the bidding are taken into account, the comparison becomes more complicated, but remains favorable to air-conditioning. In the case of the Pinellas Park School, the Board is spending $34,910 on special site preparation. This treatment was not needed at Oak Grove, and its cost has not been taken into account in comparing the schools, even though it resulted in savings in the Pinellas Park foundation costs. Also at Pinellas Park, contracts have been let for driveways, parking areas and sidewalks ($10,012)—bringing the total cost of the non-air-conditioned school, less the sewage lift station and special site treatment, to $594,761.

In the case of the Oak Grove School, the contract as actually awarded was reduced by $4,800 for the substitution of a porcelain-enamel-steel facia for one of cement plaster around the edge of the roof. This was apparently a contractor's error, however, since all of the other bidders asked for an addition of approximately this amount for the change. For this reason, even though this mistake is actually reducing the cost of the air-conditioned school, it seems best to ignore the deduction in arriving at a comparison figure.

On this basis, the Oak Grove School is costing $582,900—the amount of the base bid—plus $500 for a chain link fence and gates to close off the corridors and mall, $5,800 for driveways, parking areas and sidewalks (less because of the more compact design

than the same item for Pinellas Park), and $4,800 for the Civil Defense alarm system. This adds up to $594,000—or $761 less than the comparison cost of the non-air-conditioned school. Because the total was actually even lower, owing to the mistaken deduction for the porcelain-enamel facing, the Board also accepted an alternate for an additional parking area not provided at Pinellas Park, costing another $5,000.

Since the boiler and piping at Oak Grove are sized for the ultimate 32 classrooms, and there is a good chance that the air-conditioning compressors being installed in the first stage of construction will prove adequate for another eight classrooms, it is more than likely that the cost comparison between the schools will be even more favorable after the additional rooms have been built in both cases. At Pinellas Park, almost no preparations for heating the additional space were required by the type of system used. Most of the Oak Grove construction cost savings were in the classroom portion of the building, and will be repeated when additional classrooms are added. Taking these things into account, it seems probable that the ultimate air-conditioned school will turn out to be considerably cheaper than its non-air-conditioned counterpart; in any event, this will not remain in doubt for long, since the additions are likely to be made within a year or so, in both cases.

This is all the more remarkable in view of the fact that the cost for heating and ventilating equipment in the non-air-conditioned school was very low. As shown by the contractor's cost breakdown supplied to the School Board as a basis for periodic payments, it was only $0.67 per sq. ft., or only a little more than one-half the national average. This seems to clinch the argument for air-conditioned schools: If they can be built for less in Florida, where heating costs are low and air-conditioning costs may be assumed to be somewhat higher than elsewhere, then certainly air-conditioned schools can be built for less than non-air-conditioned schools in other parts of the U.S., where these factors are reversed.

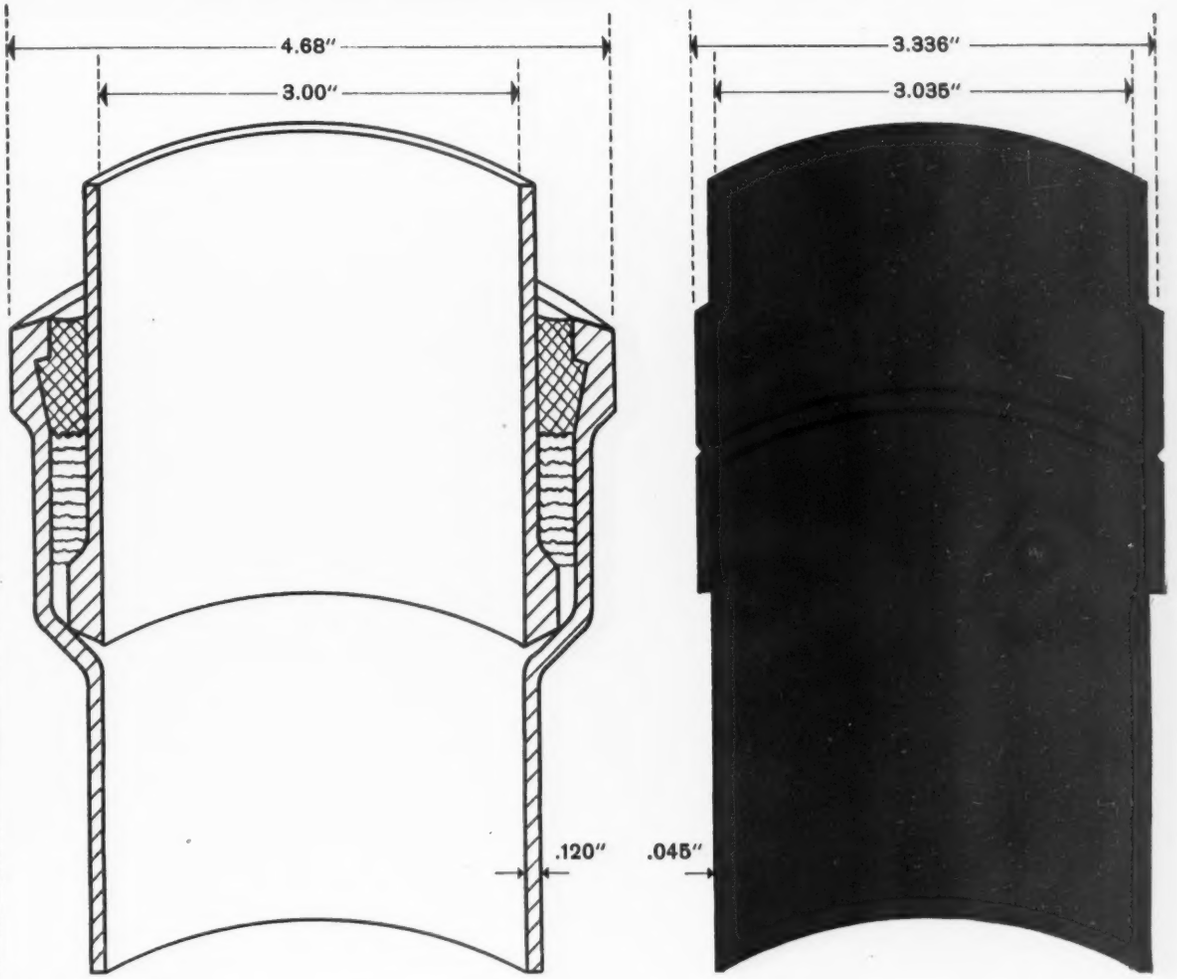
Expressed in cost per sq. ft., the designers of the Oak Grove School had to "make up" for a difference between about $1.60 for year 'round air-conditioning, and $0.67 for heating alone. This difference of $0.93 compares with a probable average difference of $0.70 in parts of the country where the normally used heating and ventilating system is more complete. This they succeeded in doing.

Important as this is, Pinellas County is not building otherwise identical air-conditioned and non-air-conditioned schools simply to establish the fact that air-conditioning can be had at no extra cost, and even at a saving. School Superintendent Floyd T. Christian has other research goals. These include a comparison of the two schools on the basis of:

1. *Operating expenses*, including the cost of operating the air-conditioning equipment, less savings due to reduced cleaning and other maintenance costs.
2. *Attendance*, plus any other evidence of the effects of air-conditioning on health and morale.
3. *Increased use of school facilities*, including nighttime and summertime usage, community functions and use for adult education.
4. *Educational effectiveness*, evaluation of which is to be the objective of an ambitious study employing the already extensive facilities of the Pinellas County Board of Public Instruction, and for which a grant has been requested from

(Continued on page 12)

IT JUST DOESN'T MAKE SENSE!



Take a good look at this dimensional comparison of service-weight cast iron drainage pipe and Type DWV copper tube. You'll see why it makes good sense to use Anaconda Copper Drainage Tube Type DWV, and Anaconda Solder-joint Fittings for soil, waste and vent lines. You can do a better job, easier, faster and at less cost. **BETTER,** because rust-caused troubles such as reduced flow or stoppages just don't occur in copper plumbing. Also, the builder is saved the extra cost of wide plumbing walls—a 3" copper tube stack fits within a partition of standard 2 x 4's—whereas, in ferrous piping, a 4" cast iron soil stack is generally used, requiring 2 x 6" studs. **AT LESS COST** because installation time is cut one-third to one-half, and here's why. Longer copper tube lengths mean fewer joints, and the lighter weight (about ¼ the weight of a ferrous pipe installation) permits cost-saving assemblies of rough-in units in the shop. Solder-joint fittings are connected quickly. Take a look at a plumbing contractor's estimated cost comparison for a typical, back-to-back bathroom—kitchen—laundry drainage system.

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Solder, Flux, Sand Cloth	2.00
Materials cost	$142.71
12 Hours Labor	60.00
Installed cost	$202.71

*Copper tube marked DWV (*Drainage, Waste, Vent*) identifies tube used only for sanitary drainage lines.

USING FERROUS PIPE AND FITTINGS

Cast Iron and Steel Pipe (*93 ft. of various sizes*)	$ 60.71
Fittings	58.10
Caulking, Lead and Oakum	21.88
Materials cost	$140.69
22 Hours Labor	110.00
Installed cost	$250.69

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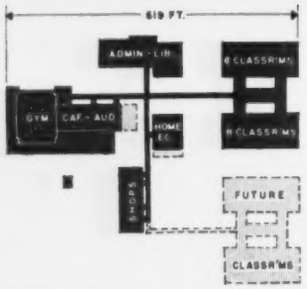
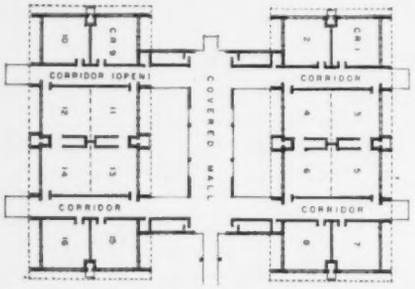
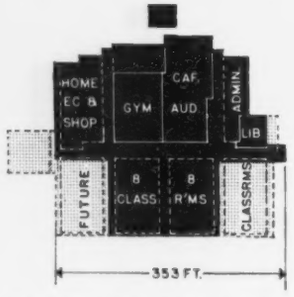
SCHOOL AC DESIGN EXPERIMENT



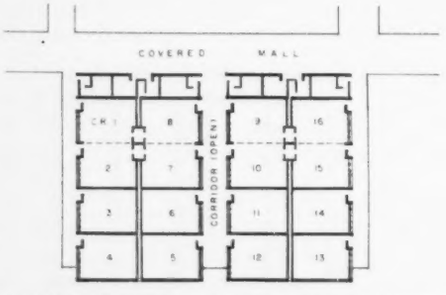
PLAN/NON AIR-CONDITIONED. Pinellas Park Junior High School has sprawling plot plan in accordance with Florida practice for non-air-conditioned schools. Cluster plan permits maximum breeze cooling. The school utilizes a large part of the 20-acre site and involves the extra expense for connecting walkways (covered), additional perimeter walls, and more edging for roofs.



CLASSROOM SCHEME/NON-AIR-CONDITIONED. The classrooms in Pinellas Park school are approximately square, with windows on two walls or special exhaust fans to assure adequate breeze-cooling. Dash lines indicate movable partitions to produce oversize rooms.



PLAN/AIR-CONDITIONED. The Oak Grove Junior High School employs a compact arrangement made possible by air-conditioning. It conserves on amount of land used and results in a more efficient plan.



CLASSROOM SCHEME/AIR-CONDITIONED. Classrooms in Oak Grove school are rectangular, with ends of the rooms abutting the corridors, saving on corridor length. Narrow space between inside ends of rooms is for access to piping and wiring, and serves as an outdoor air plenum for air-conditioning unit ventilators on inside walls.

HVAC APPLICATIONS

(Continued from page 11)

the U.S. Department of Health, Education and Welfare.

Obviously, studies of this kind will be immensely helpful since they cover two schools of similar size and type in the same climate area (within a few miles of one another), and operated as parts of the same school system. And, as with the comparison in construction cost, results will be made much more convincing by the fact that both air-conditioned and non-air-conditioned schools are involved, and any comparisons made need not rely on estimates.

Each of the schools will contain 16 academic classrooms, a large home-making suite, vocational training shops and drafting room, a teaching auditorium, library, cafeteria, gymnasium and offices. In both, construction is concrete block with brick facing, one story in height. Roof construction in the Pinellas Park School is precast concrete while that in the Oak Grove School employs steel joists and gypsum decking. Classrooms at Pinellas Park have plastic-dome skylights; those at Oak Grove will rely entirely on electric lighting.

In the Pinellas Park School, classrooms are nearly square and have windows on two sides or exhaust fans to meet Florida State regulations regarding breeze cooling. Separate classrooms and other buildings are connected by covered, open air walks employing a concrete "bent" structure. Heating is by residential-type gas-fired furnaces, serving adjoining classrooms.

In the Oak Grove School, classrooms are rectangular, with the narrower dimension abutting on the corridor—cutting down on corridor length and reducing the distance which students must travel to different parts of the school. Window sills are high, since windows are not relied upon for ventilation cooling, and have lockers beneath, facing the corridors. Winter heating and thermostatically controlled ventilation, together with summer air-conditioning, are provided by air-conditioning unit ventilators located on the inside walls, where the adjoining classrooms are separated by a continuous space for pipes, wiring and for admitting ventilation air. A gas-fired boiler and natural-gas-fuel, internal-combustion-powered air-conditioning compressors are located in a separate building near the cafeteria kitchen and gymnasium shower rooms.

Classrooms in the Oak Grove School face 16 ft. wide covered corridors open to the outside. Corridors are provided with plastic skylights to give an outdoor effect from within the rooms. Similarly, the 22 ft. wide mall connecting the various parts of the school has skylights and an open "slot" resulting from a stepdown in the roof, to add to the outdoor feeling. Corridors and student toilet rooms are neither heated nor cooled.

Chase Manhattan's ac control system

The biggest air-conditioning system ever installed in an office building is going into the new $131-million Chase Manhattan bank in downtown New York. Towering 64 stories above the sidewalks of Manhattan, the bank—the world's sixth largest office building—will have nearly 2 million square feet of floor space and will house a population of 15,000 employees and 10,000 visitors daily. To keep them comfortable, 51-air-handling systems will circulate 2 million cfm of temperature-controlled air day and night.

Punctuating the anodized aluminum exterior and compounding the air-conditioning job are 8,800 windows with an area of 800,000 square feet. Other complications arise from the tens of thousands of people, office machines and lights. Lights alone will give off 17 million Btu's an hour, enough energy to heat 350 average-size homes. Peak heat output from the building will be over 275 million Btu's.

To handle this load, the building will have 9,100 tons of cooling capacity, enough to melt a block-square skyscraper of ice 20 stories high every day. Two refrigeration units will handle the five subbasements and the first 21 floors; the other two will take care of the top floors. These are the largest centrifugal compressors of their type ever manufactured.

In effect, the building is "divided" at the 22nd story for air-conditioning purposes. The first 21 stories plus the five-story basement are on one system; a second air-conditioning system serves the 22nd to 60th floors. (The top four floors are filled with mechanical equipment.)

Each "building" has a four-zone interior system on each floor supplemented by a perimeter system. Altogether some 3,000 thermostats will sense and control temperatures in both the interior and perimeter systems.

The interior system uses medium-velocity medium-pressure air. Temperatures for each zone on every floor are individually controlled to compensate for sun, wind, interior heat load and other factors. Thermostats—one for each zone on each floor—sense room temperatures and make constant corrections. These electronic thermostats are 100 times more sensitive than the human body.

Eighteen perimeter systems circulate high-pressure air at high velocity through 7,000 induction units. These induction units wipe the windows with conditioned air, in effect insulating the building interior from outside heat or cold radiating through the windows. Air from the unit is mixed with room return air in an appropriate one-to-five ratio.

In winter, water circulating through the induction coils is at 90 to 110 degrees; in the summer this water is about 60 degrees. Thermostats sense return air temperature, regulating the water flow to maintain a constant temperature. Building personnel can adjust the thermostats for their own comfort.

Low pressure air will be recirculated through ceiling diffusers on the five basement levels. All air for the building will be electrically "scrubbed" by electronic air cleaners.

Brains behind the air-conditioning systems are two Honeywell Selectrographic Data Centers, one on the 11th floor to handle the lower "building," the other on the 31st floor to take care of the upper stories. With these two control centers, two engineers will be able to control comfort throughout the entire 64-story structure.

Because the bank areas on the lower stories will be finished first, the 11th floor control center will be installed first. Simply by pushing buttons on its compact console, one man will be able to:

1. View any of 37 different schematic drawings showing air-handling systems and converters supplying the first 21 stories and basements.
2. View any of 17 different floor plans for the lower building and basements.
3. Stop any of 71 supply and exhaust fans or 16 pumps; in addition there are provisions for controlling an additional 22 fans and 12 pumps.
4. Check temperatures at nearly 400 different locations on the lower 21 floors.

5. Raise or lower temperatures at some 200 areas on the first 21 floors.

6. Change from summer to winter operating on the air-conditioning systems.

7. Check which of 13 electric strip heaters are on or off.

8. Immediately see which air-handling fans and pumps are running.

9. See and hear emergency signals for malfunctions at any of 33 pressure-reducing valves, heaters, sump pumps, turbine tanks.

10. Make a continuous record of any 20 of 732 key temperatures.

11. Read and record steam, condenser-and chilled-water flows and temperatures.

12. Check outside wet- and dry-bulb temperatures.

13. Pinpoint cause and location of almost any mechanical trouble that may develop.

14. Provide a great miscellany of additional information: for example, when snow-melting fluid is below critical level.

If this much information were brought to a conventional control center, the panel would have to be at least 70 feet long. But this center has been miniaturized down to a control center not much larger than a couple of office desks. The entire panel, including the 732-station recorder, alarm panels and gauges, is less than 17 feet long.

The key to this miniaturization is that of putting all the schematic drawings on 35-mm. slides, then projecting them onto a translucent screen about the size of a home television set. Both of Chase Manhattan's control centers will have two screens: the left screen will show the operator the air-handling systems and converters; the screen on the right will contain floor plans.

By simply touching pushbuttons, the operator can bring any one of 100 schematics into view directly in front of him.

Each projector is electrically linked with four pushbuttons on the panel. The pushbuttons complete circuits to temperature sensors at various points in the building. When a given schematic—say, that of the 18th floor—is projected on the screen, the four pushbuttons are locked into that same system and temperature readings are from points on the 18th floor.

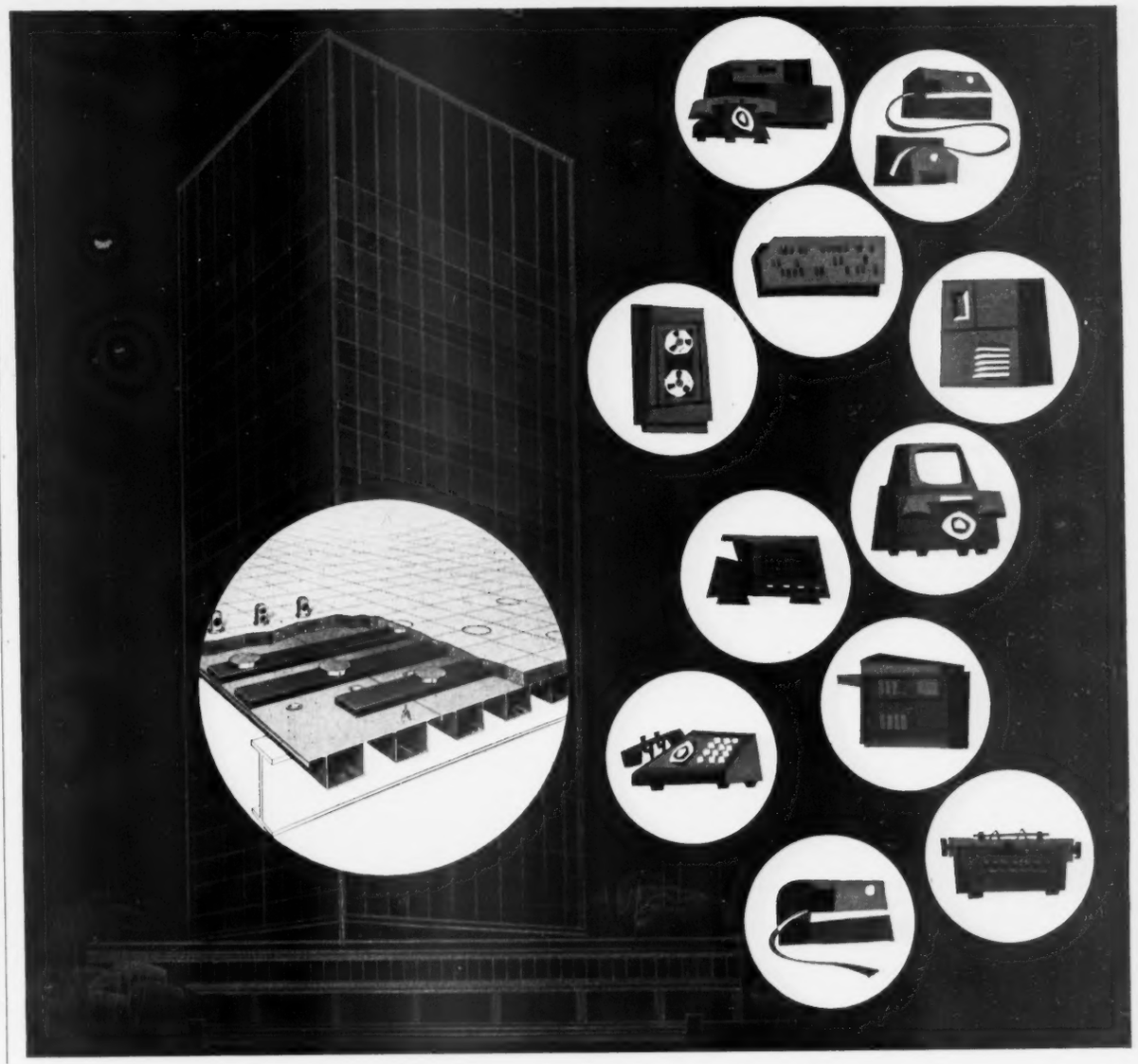
When another schematic (for the 20th floor) is selected, the unit automatically switches the pushbutton circuits to that same system. Pushing the four pushbuttons then brings in temperature readings from various points on the 20th floor. Therefore only four pushbuttons are needed to check more than 400 different temperatures.

Two other pushbuttons are used to electronically raise or lower temperatures in some 200 areas on the first 21 floors. Like the four temperature-sensing pushbuttons, these two are electrically tied into the same circuit that is shown on the control center screen. Pushing one button increases the thermostat setting at one location, raising the temperature; pushing the other button lowers the temperature.

Not only does the control center dramatically reduce space requirements but it also rivets the operator's attention onto one system at a time, instead of confusing him with a bewilderment of gauges and dials, knobs and buttons for the Chase Manhattan's 51 systems, 19 heat exchangers, 12 secondary water coolers and 60 floors.

Together, Chase Manhattan's two centers will use more than 20 miles of wiring and 50 miles of pneu-

(Continued on page 14)



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FOR NARROW-STILE GLASS DOORS

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AN ORDINARY LOCK, when adapted to a modern glass door, has a very short bolt. Since the conventional sliding bolt is thrown and retracted horizontally, it cannot be longer than the width of the narrow stile. By slightly prying the door away from its jamb, enterprising burglars can slip this short bolt out of its strike and the door will spring open.

THE ADAMS RITE MAXIMUM SECURITY lock, however, is designed specifically for narrow-stile doors. It uses an exclusive, patented, swinging action that permits a much longer bolt than the ordinary lock. The bolt is housed vertically in its retracted position and swings upward into its horizontal MAXIMUM SECURITY position. The MS bolt is actually a bar of laminated steel, three inches long. As much of this huge bolt is retained within the stile as is projected into the jamb, making forced entry impossible without complete destruction of the door channel.

SPECIFY THE ADAMS RITE MS LOCK for all narrow-stile, swinging glass doors. Whether it's a single door or a pair of doors, ADAMS RITE has an MS lock designed especially to provide MAXIMUM SECURITY and long range, trouble-free operation.

WRITE TODAY for an illustrated brochure that explains the need for MAXIMUM SECURITY

SEE OUR CATALOG IN SWEET'S

ADAMS RITE
MANUFACTURING COMPANY
540 West Chevy Chase Drive, Glendale 4, California

Circle 109 for further information

HVAC APPLICATIONS

(Continued from page 13)

matic tubing to bring comfort-control information to building engineers. To back up the units, more than 450 thermostats are scattered throughout the building to control individual zone temperatures, in effect "second-guessing" operation of 2,500 other thermostats and regulating some 4,000 valves. In all, more than 8,500 pieces of temperature-control equipment have been installed to create an optimum indoor climate all year round for Chase Manhattan. Architects are Skidmore, Owings and Merrill of New York.

Radiant heating hangar space

To heat nine million cubic feet of hangar space quietly and efficiently, an installation of more than 111,000 feet of radiant heat pipe was made at New York International Airport's new Hangar 17 at Idlewild.

Hangar 17, a suspended steel cantilever structure, was built by the Port of New York Authority to provide the latest in hangar appearance and practicability for five foreign flag airline tenants—*Air France, BOAC, Lufthansa, Sabena* and *KLM*.

In line with this, the hangar will have one of the latest developments in heating systems. The hangar's six huge aircraft maintenance bays will be kept warm in cold weather by a massive radiant heating system. The steel radiant heat pipe was laid in 18 sections or panels. These panels are installed six inches beneath the hangar floor surface and run to within six feet of the hangar doors (a separate heating system is used to keep the sliding doors free of ice). Two pumps, one for each of the two main hangar sections, will circulate 2,240 gallons of hot water through the system per minute.

Use of a radiant system is the architect's answer to the problem of providing uniform heat. Unlike heating units where noisy blowers are hung at roof level, the radiant panels are completely soundless and provide warmth where it will do the "most good." When hangar doors are open, heat escapes with either system. With the radiant heat, however, the floor remains warm and the lower regions of the hangar, where aircraft maintenance is under way, are rapidly re-heated.

Each heating panel contains between 40 and 43 grids made from lengths of 1-1½" pipe. The grids, each measuring 145 feet in length, are spaced about a foot apart and connected at either end to headers made of 3" pipe that complete the supply and return circuit for hot water.

To keep things moving in production line fashion, the pipe was installed in distinct phases—section by section. After the pipe was put in place in one panel, four two-man welding teams take over. As the welders connected the grids to the headers, the pipe laying crew was already at work on the next panel. Following in the welder's footsteps, a crew covered the installed pipe with a concrete reinforcing steel matting and finally, as the mat job was completed, concrete pouring operations commenced.

Headers were bored and then counter-bored to give a firm union where the grids are attached. Headers were placed in position and kept level on specially cast cement blocks while the grid pipe was supported by steel horses welded together from leftover lengths of pipe.

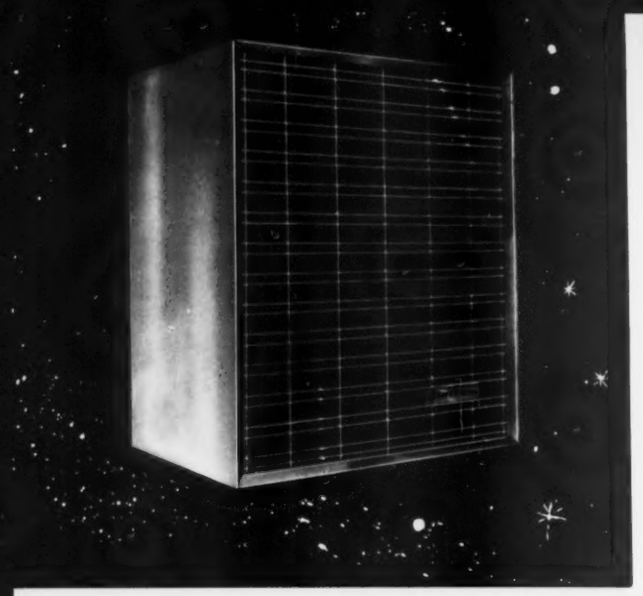
Before being installed, the pipe was tested to 250 pounds air (nitrogen) pressure and 350 pounds hydrostatic pressure.

Circle 110 for further information about JANITROL→

presents a dramatically new achievement...

67 SERIES

UNPRECEDENTED STYLING, PERFORMANCE AND DURABILITY TO MEET THE MODERN TREND IN ARCHITECTURAL DESIGN



provide the ultimate in quality and economy

New JANITROL GAS-FIRED

commercial & industrial heating equipment

ALL NEW! JANITROL 67 SERIES UNIT HEATERS FEATURING. . . STELLAR NEW STYLING, PERFORMANCE AND DURABILITY!

New Janitrol 67 Series Unit Heaters are unusually handsome . . . incredibly quiet and efficient. They bring you, for the first time in unit heater history, distinctive appearance you can recommend for the smartest business setting. And they offer in even greater measure the traditional Janitrol quality and dependability in heating.

Their clean, crisp "look" is a departure from the crude, cumbersome industrial appearance of yesterday. Modern machine tools, trucks and structures have evolved as attractive, functional designs. And now, Janitrol sets the pace in unit heater styling!

The draft hood opening and adjustable louvers are concealed by the beautifully styled gold-tone grille. The rear combustion air inlet permits use of a solid bottom panel . . . eliminates any possibility of obstruction to combustion air intake.

Inside, design progress is equally significant. Yet every part is proven . . . every safety feature is included. Result? Performance no other unit heater can duplicate.

Naturally, the "heating heart" of every new Janitrol is the famous Janitrol Multi-Thermex heat exchanger with this unchallenged record for durability and low maintenance: among nearly three million heat exchanger tubes produced since 1940, replacements for all causes have run less than ¼ of 1%.

Investigate the many exclusive advantages of Janitrol 67 Series Unit Heaters for jobs you specify or install. Let them help build your reputation for quality.

FEATURES THAT MAKE ALL OTHER UNIT HEATERS OLD-FASHIONED!

New "sheer look" styling—Beautiful Phoenix Beige finish • New gold-tone grille. Conceals louvers and draft hood opening • Low overall height • Automatic controls—Fully accessible • Factory-fired • Low Voltage Gas Controls—Standard • Low Voltage Sensitive Thermostat—Standard • Limit control—interrupts control circuits and shuts off fuel if unit temperature becomes excessive • Thermopilot Shut-off. Shuts off all gas, including pilot, in event of pilot flame failure • Automatic Pilot. Exclusive Janitrol low Btu. non-linting design • Quiet air delivery. Acceptable for schools and other applications where conventional units are too noisy • Motor prelubricated for 5 years • Built-in Draft Hood. Removable, provides full access to heat exchanger. Protects burners from abnormal up or down draft • Combustion air inlet. At bottom rear, through control enclosure. Controls constantly cooled by combustion air stream. Eliminates cross draft on burners • Ampli-Fire Ribbon Flame Burners. No flame contact on metal. Removable, with non-linting air shutters featuring thumb-screw adjustment.

MEET EVERY COMMERCIAL AND INDUSTRIAL HEATING NEED FROM JANITROL'S BROAD LINE

GAS-FIRED DUCT-FURNACES
Install in a duct where air is circulated by separate blower. Adaptable for use with cooling. Two sizes: 200,000 and 300,000 Btu/hr. input—may be combined to provide capacity from 200,000 Btu/hr. up, in increments of 100,000 Btu/hr. input. Six sizes, from 50,000 to 225,000 Btu/hr. in Duct 55 models.

BLOWER-TYPE UNIT HEATER
Allows air delivery from greater heights and against greater static pressures. Models with exposed or enclosed blowers. A.G.A. approved as low and high static-type blower unit heater for air delivery to duct system up to 1.0 in. W.C. external static. Heat sections factory assembled. Sizes: 300,000, 400,000 and 500,000 Btu/hr. input.

FLOOR-TYPE UNIT HEATER
Cold air drawn from floor level is heated, filtered and discharged horizontally overhead. Quiet, clean, carefree—ideal for offices, restaurants, stores, labs, etc., requiring a compact unit.

HEAVY DUTY BLOWER HEATERS
For unit heating, central heating and air conditioning. Wide range of standard blowers and motors assures correct air delivery and temperature rise in each application. Factory assembled and tested. Capacities from 250,000 Btu to 1,750,000 Btu/hr. input.

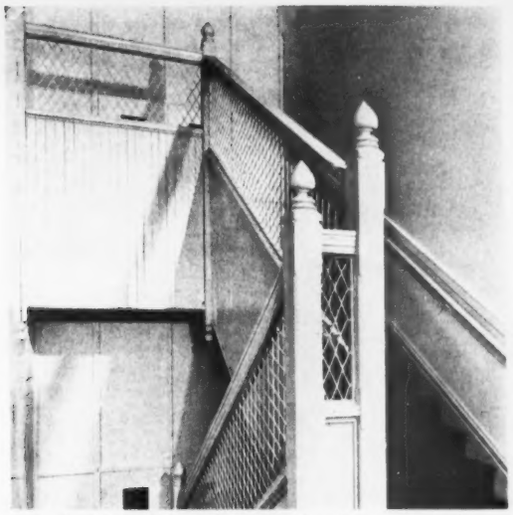
HORIZONTAL OIL UNIT HEATER
For suspension overhead. Saves floor space. Compact, efficient, low-maintenance design clean and quiet in operation. May also be used to feed duct system. Choice of sizes from 84,000 to 250,000 Btu/hr. output to meet all needs.

helpful data for
ARCHITECTS, CONTRACTORS AND ENGINEERS
write collect today for complete information on Janitrol units for heating with clean, economical gas in buildings of every type. There's no obligation.

JANITROL
HEATING AND AIR CONDITIONING
A Division of Midland-Ross Corporation
Columbus 16, Ohio • In Canada: Moffats Ltd., Toronto 15

Also Makers of Surface Industrial Furnaces, Kathabar Humidity Conditioning, Janitrol Residential Heating and Cooling Equipment.

FIRE SAFETY AND PROTECTIVE DEVICES



A typical installation of smoke barriers was made recently at the Fitler Elementary School in North Philadelphia. The barriers are installed completely across the ends of the corridors and are equipped with double swinging doors. Shown above is a view from the landing between the second and third floors of the Fitler School. These stairs on either end of the building are not required for rapid evacuation.

Sensitivity of a new fire detecting electronic tube, the size of a golf ball, is shown above being demonstrated by Dr. John B. Johnson of Thomas A. Edison Industries Division, as he activates the tube (mounted under protective wickets) with a lighted candle. The tube, known as a "U-V Detector," is a gas discharge device with two symmetrical electrodes and is sensitive only to ultraviolet radiation in flame.

Fire evacuation in schools

Installation of fire-retardant smoke barrier on open stairwells in 67 of Philadelphia's public schools has bought at a very low cost the precious element of more time for evacuating students in the event of fire. Toxic smoke and gases are isolated from the school corridors by barriers on all double stairwells of older buildings so as to minimize potential panic conditions and prevent dangerous smoke and gas inhalation. The combination of quarter-inch plywood and fire-retardant paint used in the Philadelphia barriers, therefore, provides ample time for children to be calmly and safely led out through other exits, at a cost ($140,000 total) that is considered practical for general use in school buildings.

A typical installation of smoke barriers was made last fall at the Fitler Elementary School in North Philadelphia. Like many older, multi-story school buildings, the upper two stories of the Fitler School consist of long corridors bordered on one side by school rooms and at the ends by double stairwells. The smoke barriers are installed completely across the ends of the corridors and are equipped with double swinging doors. The barriers isolate each floor from smoke that is spreading either up or down from floor-to-floor. For example, a fire occurring on the third floor would drive smoke down the stairwells and could cause smoke hazard conditions in the corridor of the second floor. The smoke barriers at both ends of the second floor corridor would prevent such a condition from developing.

Although a smoke barrier must be impervious to heat or flame developing in the stairwell, such a structure can be built, as in Philadelphia, without heavy expenditures for materials and labor. The low-cost quarter-inch plywood panels, themselves highly combustible, could be used because they were coated on both sides with fire-retardant paint. The final coat can provide a semi-gloss finish which will be washable, stain-resistant surface that can withstand the continuous daily traffic of children in and out of the school. Since they are also part of the barrier, all the double doors are painted with fire-retardant paint. A fire-retardant paint is applied in the same manner and serves the same decorative purpose as conventional paints. If exposed to a heat or flame temperature of 300°F or above, however, the intumescent paint on the smoke barriers will swell into a black, spongy cellular mat about ¾" thick. The spongy mat will only char at the point where the heat or flame accompanying the smoke is applied and will not support the spread of flame or heat along its surface. The thousands of minute air cavities in the mat will form effective heat insulation so that the temperature of the plywood itself will be much lower than that of the exposed surface of the mat. In addition, a non-combustible gas blanket will be formed by the chemical changes which produce a cellular mat. Therefore, the plywood smoke barriers will continue to stand and negligible smoke will enter the corridors, whatever the intensity of the fire in the stairwell. Following a fire, the charred intumescent paint may simply be scraped off, the surface cleaned, and new paint applied.

The fire-retarding quality of building materials or fire-protective paint like that applied on the smoke barriers is usually given in terms of "flame spread factor," a standard test figure developed by the Underwriters' Laboratories. Materials with flame spread ratings from 0 to 25 are considered "non-combustible," while materials with ratings above 70 are classified as "combustible," and above 100 as "fully combustible." Engineers in the School District of Philadlephia have insured the effectiveness of the smoke barriers by requiring a maximum flame spread of only 15 for all barrier surfaces as covered with fire-retardant paint. The manufacturer's technologists were able to recommend, on the basis of the UL tests, that the required flame spread rating could be achieved with a paint coverage of 150 square feet to the gallon. Source: Technology Associates, New York, N.Y.

Golf-ball size electronic detector

An electronic tube, capable of detecting fire by sensing its ultraviolet radiation was recently introduced.

(Continued on page 18)

←Circle 110 for further information about JANITROL

FIRE SAFETY

(Continued from page 17)

Designated the "U-V Detector," the tube—smaller than a golf ball—is insensitive to direct sunlight, normal illumination enclosed in glass, cosmic and nuclear radiation. It was developed to be used as a fire detector to provide a nearly instantaneous alarm, or in flame-out applications for the detection of absence of flames in boiler fire boxes, furnaces or other combustion chambers. It is the result of seven years of research by the Thomas A. Edison Research Laboratory of West Orange, N.J.

Several advantages have been cited for the device over systems currently in use, such as sprinkler systems or thermostats. With a sprinkler, a fire is usually well under way before it activates the sprinkler valve. In many areas, such as in department stores, resulting water damage is generally greater than that of a fire detected as soon as it starts.

Thermostatic controls are considered in the same category according to the Edison researchers. Temperature must reach a certain degree before an alarm is sounded, and the fire is considered to have a good head start by then.

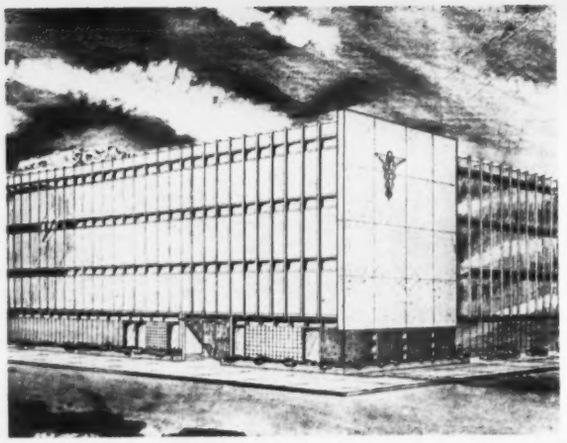
As a flame-out detector, the tube can be mounted at a small opening of any fire box. When a fire goes out, the tube, in a reaction opposite to that of fire detection, ceases to provide an output current, which also sets off an alarm or operates controls. In either application, the tube can send its signal to a visual or audio alarm at a central, manned location, or in the case of fire detection, directly to a fire station. The tube has other applications than that of fire detection. It can be used as a communications device to pick up invisible ultraviolet ray signals, to detect gas and smoke and the density of liquids or air. It is operative within an ambient temperature range of minus 75°F to 400°F.

The tube is one-and-one-eighth inches in diameter and one-and-one-quarter-inches long, including mounting pins which fit an ordinary radio tube socket. It is an alternating current operated, gas discharge device with two symmetrical electrodes. Ultraviolet radiation from flames, containing wave lengths of between 1,900 and 2,900 angstroms release electrons from the negative electrode.

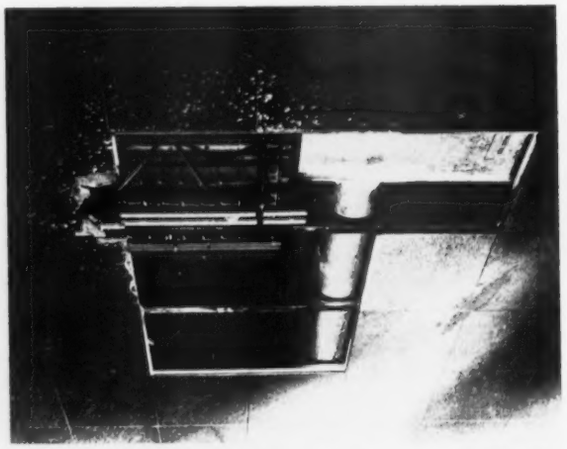
An electron emitted at an instant when the voltage across the electrodes is high, starts ionization of the gas which builds up to an avalanche of current that continues to flow between the electrodes during that particular half cycle. The circuit is normally arranged so that it does not respond to occasional half-cycle pulses of current that might be initiated by extraneous sources, but rather to the greater average current set up by a series of pulses produced by the ultraviolet light source. Source: Thomas A. Edison Industries, West Orange, N.J.

Fire and smoke detector alarm

A fire and smoke detector was demonstrated to visitors at the recently held Industrial Building Exposition at New York City's Coliseum. The detector can signal warning of an incipient fire condition even before the visible smoke, flame, or heat necessary to trigger ordinary detectors. The manufacturer of the device state that its systems are already being used by the U.S. Navy, Bureau of Standards, and the Atomic Energy Commission as well as in hundreds of industrial buildings, schools, museums and other types of public buildings. This proprietary device, known as the *Pyr-A-Larm*, is stated to be one of the first peacetime uses of atomic energy. The new fire detector is cited as making possible a degree of early warning which has never before been available. Company executives explained that all fires give off large quantities of invisible particles. When these microscopic particles enter the sensitive sampling chamber in the detector, they interrupt the flow of a tiny electrical current. The instant this happens, an alarm signal is flashed to a power unit where automatic controls can call the fire department, shut off fans, actuate extinguishing systems, or perform any other desired function. The system, although extremely sensitive, can be installed in offices and smoked filled conference rooms without danger of false alarms. Because early detection is one of the most important factors in preventing large loss fires, the new device is expected to replace the slower heat activated devices in most applications. The cost of operating an entire system in a medium sized building is about the same as that for an ordinary 25-watt light bulb. Further data is available from: Pyrotronics, Baker Industries, Newark 12, N.J.



The new St. Lukes Medical Building in Sacramento, Calif., had an intense fire recently which caused only minor damage, due to the fire resistant acoustical ceiling tile installed throughout the building. Building designed by architects Goodpastor & Associates of Sacramento, Calif.



Removal of a portion of the fire resistant acoustical ceiling tile, immediately after the blaze at St. Lukes, revealed no damage to the structural components and utility lines above the ceiling. The tile itself prevented dangerous heat from weakening the floor structure above.

Except for a small portion of the tile (upper left) which was removed by firemen, the fire resistant acoustical tile ceiling in this storage room at St. Lukes was completely intact after the fire. It required only cleaning and repainting to restore its original appearance.

Acoustical tile barriers

An intense fire, fed by acetylene gas, caused only minor damage to Sacramento's new $2 million St. Lukes Medical Building recently, because of a unique fire safety feature incorporated into the structure when it was built earlier this year.

The building, designed by the architectural firm of Goodpastor & Associates of Sacramento, Calif., was one of the first in the country to be equipped with a new type of acoustical tile ceiling system that also doubles as a protective fire barrier for the floor construction above. The ceiling system is designed to block dangerous transmission of heat for as long as four hours, depending upon the method of installation. This protection enables the structural components above the ceiling to bear up under their prescribed loads during a fire, and greatly reduces the danger of building collapse.

According to witnesses at the scene, the fire was touched off when a small hose was accidentally broken off an acetylene gas tank being used in a basement room of the building. Eventually, the escaping gas was ignited by a spark, turning the area into a holocaust.

When firemen arrived, they attempted to get the burning acetylene tank outdoors, so it could burn itself out. However, the room was so hot that it was first necessary to open the doors and let some of the heat disperse into the hallway.

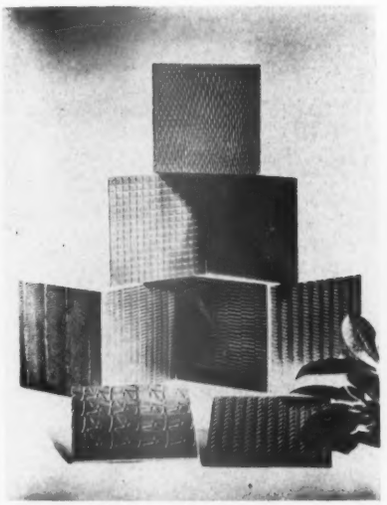
For about a half hour, until the burning tank could be removed, the fire ranged under the acoustical ceiling, subjecting it to temperatures as high as 2,000°F. Yet the acoustical tile remained in place in the suspension system, providing excellent protection for the structural steel members resting just above the ceiling surface.

When firemen removed some of the tile from the ceiling, they discovered that the metal suspension system and structural steel joists above were only sightly warm. The ceiling itself, except for the portion which had been removed, was completely intact, and required only cleaning and repainting to restore its original appearance.

St. Luke's officials credit the ceiling system with playing a key roll in preventing the spread of fire damage to other parts of the building. Despite the intensity of the blaze, total damage to the ceiling area amounted to only $125. Source information submitted by the Armstrong Cork Co. Information Service, Lancaster, Pa.

PRODUCTS, EQUIPMENT, MATERIALS

Report of recent developments by industry, based on data furnished by mfrs. Inquiry cards for further information face pages 1 and 54.



CUSTOM DESIGN IN PATTERNED STEEL

MFR'S DESCRIPTION: mfr announces custom design service for patterned textured steels, in addition to availability of 36 patterns in steel.

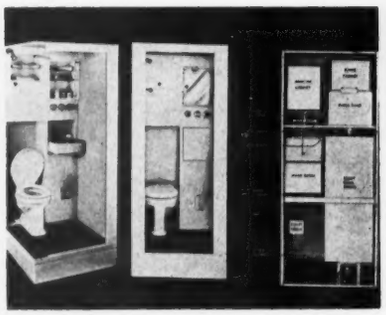
USES: paneling, spandrels, trim and in manufacture of products and appliances.

SPECS/FEATURES: mfr will consult with designers to determine design, functional characteristics, strength and cost of custom patterns in textured steel. Mfr states textured steel imposes no additional manufacturing cost over plain flat surfaces. It can be formed without deformation of the texturing in most applications and, in virtually all instances can be welded by conventional methods. Nine of 36 stock patterns shown in illustration.

AIA FILE NOS. 15-J and 17-A

MFR: SHARON STEEL CORP.

Circle 200 for further information



COMPLETE BATHROOM IN COMPACT UNIT

MFR'S DESCRIPTION: *Bath-O-Lett* introduced, providing complete bathroom facilities in one unit occupying a floor area no larger than a stall shower and costing less than $400.

USES: to provide a second bathroom or as installation in places where space is at a premium.

SPECS/FEATURES: *Bath-O-Lett* combines a full size shower, full size vitreous china flush toilet, stainless steel wash basin, a three-shelf medicine cabinet and a separate towel and supply cabinet. Optional accessories available include exhaust fan, light fixture, heater, and choice of doors. The standard model is equipped with an accordion type heavy plastic folding door. The unit can be installed in a matter of hours by a plumber.

AIA FILE NO. 29-H-3

MFR: CONSUMERS' PRODUCT DIV., MORSE BOULGER, INC.

Circle 201 for further information

STONE VENEER WITH QUARRIED APPEARANCE

MFR'S DESCRIPTION: *Ridge Rock* is a natural organic aggregate, plus cement, with all particles bonded through special processing to make it as hard and solid as natural rock.

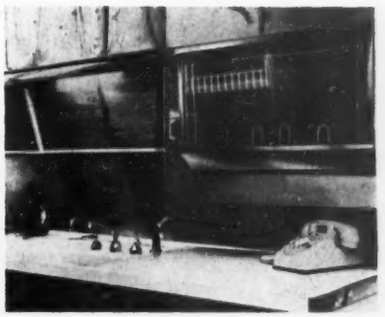
USES: walls, fireplaces, planters, pillars, etc.

SPECS/FEATURES: *Ridge Rock* achieves a quarried stone appearance at one half the price of quarried stone, mfr claims. The ¾" thick, precast solid concrete stone is available with face surfaces of 2", 5", 8" x 30" in range of colors. According to mfr, no special care is required to maintain it, as heat and cold will not distort it; thereby making it highly resistant to weathering of any type. Installation is easy and quick and permits varied pattern effects. It is applied with mortar mix, one stone at a time over any brick, reinforced concrete block, stucco, scratch coating or siding. It may be cut with a carborundum blade or may be broken and any unevenness taken off with nippers if desired.

AIA FILE NO. 3-D

MFR: GRIFFIN ENTERPRISES, INC.

Circle 202 for further information



FULL-CAPACITY COMPACT DISHWASHER

MFR'S DESCRIPTION: a compact, full-capacity electric dishwasher which can be inexpensively installed in any of 11 kitchen locations and features *wave-of-water* washing action and steam purification.

USES: new and existing residential installations.

SPECS/FEATURES: the dishwasher can be changed easily from one location to another or converted into a mobile appliance. The height matches the space available between the counter-top and the bottom of the wall cabinets. Two models are 18 inches high, and the other 15 inches. The depth of two models, 13 inches, also matches the depth of kitchen wall cabinets, which allows dishwasher to be installed on the counter-top below the cabinet and still leave half or more of the counter-top as work space, mfr reports. All three models are 30 inches wide. Effective washing is stated to be accomplished by *wave-of-water*—solid streams of high-velocity water generated by a 1/3 HP motor and oscillated slowly back and forth by a second motor to produce an ever changing deluge over dishes and utensils. Fresh hot water is added continuously throughout the washing and rinsing cycle to provide seven changes of water, and food

particles are removed during each change. Entire operation requires seven and one half gallons of water.
AIA FILE NO. 29-H-7
MFR: LING-TEMCO ELECTRONICS, INC.
Circle 203 for further information

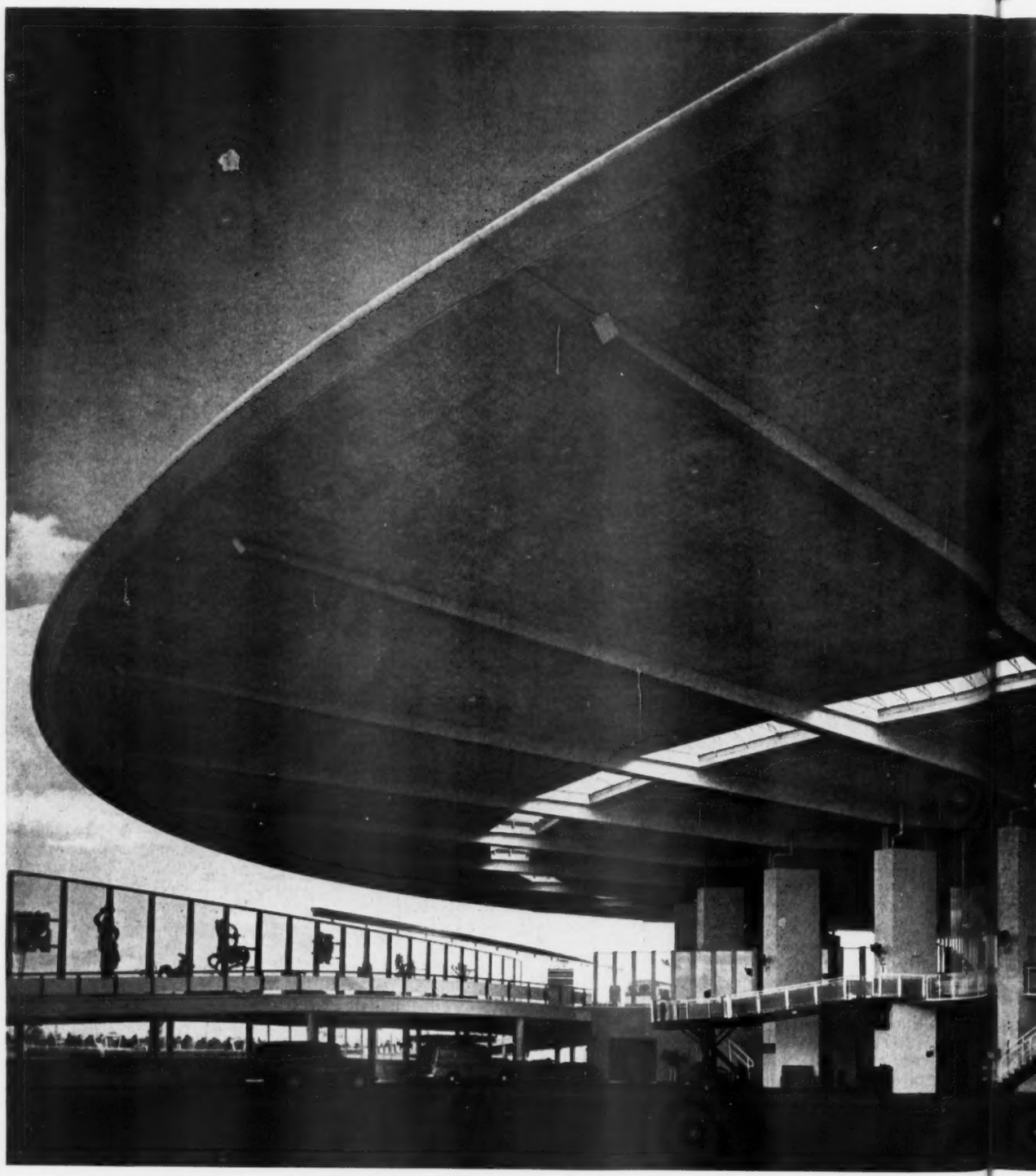
HVAC

ROOF-TOP UNITS FOR HEATING/COOLING

MFR'S DESCRIPTION: *Skyliner* line of roof-top units for gas-fired heating and air-cooled cooling, have been introduced.
USES: designed especially for use with one-story buildings.
SPECS/FEATURES: each unit circulates the conditioned air through a short concentric supply/return duct and ceiling diffuser, located directly beneath the unit. No duct system is needed; no useable inside space is used. The line features a low silhouette and no vent stack is required since a flue gas exhauster is furnished. One or more units, as desired, may be used to provide a simple zone-controlled comfort system, since each unit is independent and individually controlled by its own thermostat. The units are factory assembled, wired, tested and ready for operation with a minimum of installation time. The units are completely enclosed in weatherproof, insulated, aluminized steel cabinets, and have been tested for weather durability.
AIA FILE NO. 30-D
MFR: JANITROL HEATING AND AIR CONDITIONING, DIV., MIDLAND-ROSS CORP.
Circle 204 for further information

SINGLE CIRCULATOR HEATING UNIT

MFR'S DESCRIPTION: a compact, motorized zone-control valve called the *Zone-A-Matic*, provides fully zoned heat from a single circulator on the heating units.
USES: residential, commercial, institutional, industrial, etc.
SPECS/FEATURES: valve features a strong electric motor with sealed, lubricated gear train (slow operation of the gear train eliminates the possibility of water hammer on closing), sealed mercury switches which are stated to be completely silent and trouble-free, and dimensions permitting valve location within baseboard radiation. The positive shut-off feature of the valve prevents annoying leakage of heat into rooms during the periods when the zone is not in



New Pan American World Airways Passenger Terminal, New York International Airport.

Circle 111 for further information

Architects and Engineers: Tippetts-Abbett-McCarthy-Stratton, New York.

SARALOY® 400

frees design from conventional flashing limitations, cuts flashing labor costs 25% for new air terminal

45,000 square feet of Saraloy 400 roof flashing provide hundreds of *permanent* moisture seals for this ultra-modern air terminal. Among the many critical flashing problems solved by Saraloy 400 were: sealing 875 acute and obtuse angles created by almost inaccessible junctures of structural steel beams and purlins; flashing steel-to-concrete joints and lining scupper holes.

The design of the terminal's elliptical cantilevered roof produced 144 different odd shapes and angles where beams, purlins and equipment housing shells meet. Flashing with conventional materials would require that each seal be specially cut and custom-fitted, often to match curved contours. The labor costs for installing metal flashing would have been prohibitive. Because Saraloy 400 could be quickly and easily cut and formed on the job, labor costs were about 25% less than the cost of installing conventional flashing materials. And each seal is permanent.

Saraloy 400 is Dow's brand of flexible roof flashing. It can be bonded to almost any construction material, such as concrete, wood, metal, ceramic, and it can be painted. It provides a permanent watertight seal which won't check, peel or crack . . . and which moves with building contraction and expansion. For more information write to THE DOW CHEMICAL COMPANY, Midland, Michigan, Plastics Sales Dept. 1501JF2.

Saraloy accomplishes difficult flashing of bolted girder-purlin intersection

OTHER DOW BUILDING PRODUCTS

STYROFOAM* — Long-lasting insulation for cavity walls; effective insulating base for plaster and wallboard. Rigid, low "K" factor, highly resistant to water and water vapor.

SCORBORD* (pat. applied for)—Superior rigid insulation for foundation perimeters, slab floors. Exclusive pre-scoring speeds installation.

ROOFMATE*—Lightweight, rigid insulation for built-up roofs serves as its own moisture barrier. Reduces blistering, resultant leaks. 2′ x 4′ boards speed installation. *TRADEMARK

THE DOW CHEMICAL COMPANY DOW Midland, Michigan

Circle 111 for further information

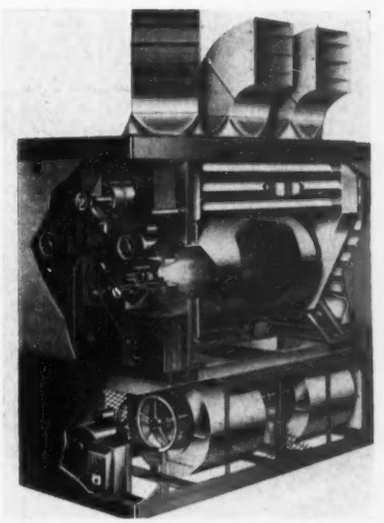
PRODUCTS, EQUIPMENT, MATERIALS

use. The valve is available in ¾", 1", and 1¼" female threaded pipe sizes, either angle or straight-through patterns; ½" and ¾" female sweat, straight-through patterns are also available.

AIA FILE NO. 31-N

MFR: EDWARDS ENGINEERING CORP.

Circle 205 for further information



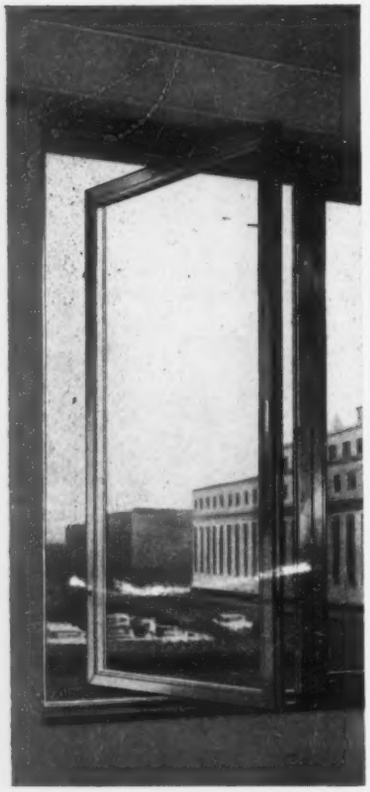
MULTI-PURPOSE HEATING PRODUCT

MFR'S DESCRIPTION: the dual-fuel OG4 series is designed to be used as a central furnace, unit heater with directional discharge nozzles, or duct furnaces with performance capabilities for the future addition of industrial air-conditioning.

USES: institutional and industrial applications.

SPECS/FEATURES: this unit can be installed for up-flo, down-flo or horizontal delivery, and is UL listed. The heat exchange has a cylindrical primary surface of 14 gauge No. 430 stainless steel and is anchored at the burner end to a 4-gauge front plate. Secondary heating surface is 16-gauge, 3½-inch diameter aluminized steel tubing connected to stainless and aluminized steel headers. A special construction feature is a provision for unrestrained expansion and contraction even at abnormal 180° temperature rise operation. Either No. 2 fuel oil or gas are burned in a single burner assembly with fuel selection determined by a manual selector switch furnished as standard or by an optional automatic selector. The line is factory wired in accordance with National Electric Code and

reversible window



ELEGANCE

Conceived in the consummate skill of a knowing hand . . . designed with a feel for fashion and a flair for elegance. This is the incomparable new Series A315 . . . reversible window by the master craftsmen of Albro. Some noteworthy features:

- trim, modern styling
- choice of aluminum or bronze
- mechanical and alumilite finishes
- custom quality
- easily installed, sash removable from inside
- for commercial, institutional, monumental structures
- backed by rigid performance tests and . . .
- more than three decades of creativity in metals

See it in Sweets or write

ALBRO METAL PRODUCTS CORP.
944 Longfellow Avenue
New York 59, New York

Circle 112 for further information

includes a main line switch, blower starter, summer-off-winter switch, limit control, fan control, and terminal strip. Flame sighting device is a lead-sulphide scanner with primary safety combustion control of the sequencing type. The unit is adaptable to all voltages; control circuit is 115 V. Output capacities run from 280,000 to 1,000,000 Btuh.

AIA FILE NO. 30-B-1

MFR: LENNOX INDUSTRIES, INC.

Circle 206 for further information

DOWNSTREAM INSTALLATION OF MODULAR DUCT FURNACES

MFR'S DESCRIPTION: *DS* series modular duct furnaces in year 'round packaged air-conditioning systems with AGA-approved downstream installation.

USES: general HVAC applications.

SPECS/FEATURES: AGA approval requires: use of corrosion resistant materials in heat exchangers, carryover parts, and pilots; and provision for proper elimination of condensate. Downstream installation is reported to benefit installer and user because of easier maintenance and the comparative simplicity of installation which eliminates the necessity of installing special by-pass duct work to isolate the furnace when it is not in operation during summer months. In addition, such installations allow reheating in circumstances where the tempered air first must be chilled for removal of moisture. Series ranges from 150,000 to 300,000 Btu and may be installed singly or in multiples for greater heating requirements.

AIA FILE NO. 30-B-6

MFR: REZNOR MANUFACTURING CO.

Circle 207 for further information

IMPROVED DUAL BLOWER SYSTEMS

MFR'S DESCRIPTION: development of improved dual blower systems announced.

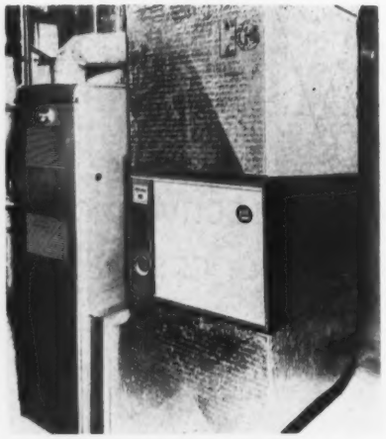
USES: with mfr's blower type gas-fired unit heaters and modular duct furnaces.

SPECS/FEATURES: the systems are designed for use with mfr's 250,000 Btu and 300,000 Btu *US* series blower-type unit heaters, and also with the *DSB* series packaged blower systems for mfr's 250,000 and 300,000 Btu modular duct furnaces. The new systems are powered by a single ½ HP motor, with the blowers mounted on a common drive shaft. Two ⅓ HP motors formerly were used to drive the blowers, which previously were mounted on individual shafts. Utilization of a single motor reduces HP requirement of the system, and simplifies electrical wiring, thus lowering operating and maintenance costs. A single drive shaft assures smooth, even inlet air flow, for improved efficiency of blower systems.

AIA FILE NO. 30-D-1

MFR: REZNOR MANUFACTURING CO.

Circle 208 for further information



DRY TYPE ELECTRONIC HOME AIR FILTER

MFR'S DESCRIPTION: *Electro-Klean* dry type electronic home air filter features console exterior styled by Don Dailey.

USES: residential installations.

SPECS/FEATURES: up to 90 per cent of all air-borne dirt, dust and pollen is trapped and held. Particles as small as 1/100,000 of an inch do not escape. Filter is installed in the return air duct of any forced air furnace or central air-conditioner. It fits into a wide variety of duct work locations. It does not require any plumbing or sewage connections, no special electrical circuits. Cost of operation is that of a 10 W bulb. Filter cells are replaced every year or two years, depending upon local dirt condition. The three cell, 1961 *Electro-Klean*, reported to be completely adequate for the average six room house retails at $189.00, plus installation cost of $20.00 to $40.00. Filter cells retail at $4.00 each.

AIA FILE NO. 30-D-3

MFR: AMERICAN AIR FILTER CO.

Circle 209 for further information

HUMIDITY CONTROL FOR ELECTRIC HEATING

MFR'S DESCRIPTION: announcement has been made of the addition of *HC-8-42*, a new highly sensitive humidity control, to mfr's temperature control line.

USES: to control humidity in conjunction with electric heating equipment.

SPECS/FEATURES: the humidity control may be used to operate an exhaust fan which discharges moist air and draws in outside air to replace it. This operation balances the humidity to the pre-set level of the unit. It has a range of 10 per cent to 100 per cent with a 4 per cent differential. It is rated 125 VA for 115/230 v. ac and 45 VA for 115 v. dc.

AIA FILE NO. 30-E

MFR: EDWIN L. WIEGAND CO.

Circle 210 for further information

ROLL TYPE AIR FILTER

MFR'S DESCRIPTION: *V-7 Roll-Kleen* air filter, which operates on the same principle as the film roll in a box-type camera, has been announced.

USES: for new or existing systems where large volumes of air are to be cleaned.

SPECS/FEATURES: the filtering media, which comes in a roll, unwinds from the top of the unit. It passes downward across the face of the air cleaner and as media is used, it is rewound on a bottom spool. Used filter rolls are disposable. The *V-7* media roll consists of a glass filter material 65′ in length. It has a high dust-holding capacity with an efficiency above 81 per cent, and operates best between a velocity range of 350′ to 500′ per minute. Except for media change, only periodic inspection and lubrication are required. Available with automatic drive or manual operation. Models available in vertical sections in 3′, 4′ or 5′ widths. Heights range from 5′ to 15′ in increments of 4″.

AIA FILE NO. 30-D-3

MFR: FARR CO.

Circle 211 for further information

COMPACT-DESIGN ROOM THERMOSTATS

MFR'S DESCRIPTION: new room thermostats intended to provide increased flexibility of installation, have been introduced.

USES: with gas, oil or stoker heating systems.

SPECS/FEATURES: the units are square with slightly rounded corners. The corner projections ease back gracefully to create an unobtrusive appearance of hugging the wall. A round, clear lucite dial serves to make the temperature settings. The ⅛″ projection of the dial affords easy finger

tip setting. Models are available in: *Golden Beauty*, a soft gray dial with golden numbers; and *Silver Splendor*, a silver face with black numbers. Both models have multiple contacts for continuous self-cleaning action. Available with or without an adjustable heater, and positive "off" position, if desired.
AIA FILE NO. 30-E
MFR: CAM-STAT, INC.
Circle 212 for further information

ROOM THERMOSTAT FOR ELECTRIC SYSTEMS

MFR'S DESCRIPTION: a room thermostat which matches mfr's line of decorator wall plates, has been introduced.
USES: for use with electric heating systems, including radiant heating wire in the ceiling, baseboard convectors, and wall heaters.
SPECS/FEATURES: thermostat unit is made of brushed aluminum on ivory. It is extremely sensitive to both radiant and air temperature. Temperature differential is only ½° F, with a range of temperature settings from 55° to 85° F. Units are available in single pole with temporary shutdown position, and double pole with off position. All units are high capacity with 5,000 w. at 240 v. ac. A mechanical locking device is available as an accessory for all models.
AIA FILE NO. 30-E
MFR: GENERAL ELECTRIC CO.
Circle 213 for further information

ADDITIONS TO LINE OF GAS-POWERED AC UNITS

MFR'S DESCRIPTION: three air-conditioning systems, 3-, 10-, and 15-ton units complete a series of natural gas or LP gas-powered air-conditioning systems.
USES: residential and institutional.
SPECS/FEATURES: cost of operating one of these *Gascool* systems has been proved to be as much as 61 per cent less than comparable (output) systems using other means of power, according to mfr. Lower operating cost is possible because units combine mechanical compressors and long-life engines with the economy of gas fuel. Average fuel requirement is 20 CF of 1,000 BTU natural gas per-ton-hour of operation. LP gas fuel is claimed to be less than ⅛ gallon per-ton-hour. At 100° F ambient temperature with 40° suction, the 3-ton model has a rated capacity of 60,000 BTU/hour at 1,500 RPM with refrigerant R-22. Other capacities available in the series include the 5- and 7½-ton models.
AIA FILE NO. 3-F-1
MFR: VECTOR ENGINEERING CONTRACTORS, INC.
Circle 214 for further information

RECESSED-TYPE WALL FURNACE

MFR'S DESCRIPTION: a new 60,000 Btu recessed-type wall furnace with two-heat control system, has been introduced.
USES: residential and light commercial heating applications.
SPECS/FEATURES: the two-heat control system permits low speed blower and burner operation for normal heating requirements and a high speed adjustment for full capacity. Unit also available with conventional controls. Other features include automatic gas valve, a coated heat exchanger, top rear vent connection, and a glass-sealed magnetic room thermostat. Unit measures 84" high, 14" wide, and 10⅜₁₆" deep.
AIA FILE NO. 30-B-6
MFR: THE PAYNE CO.
Circle 215 for further information

INCREASED CAPACITY ELECTRIC HUMIDIFIER

MFR'S DESCRIPTION: an improved version of mfr's electric humidifier, type *50-810*, has been announced.
USES: residential applications.
SPECS/FEATURES: the unit is a positive evaporating type not dependent upon plenum temperature or directional air flow for its operation. It is designed to eliminate any possible moisture trapping within the casing under normal operating conditions because the electric element and reservoir pan, when installed, are completely within the plenum or duct run. An 800 w. self-limiting electric element immersed in water insures moisture addition to the conditioned area. Water level in reservoir is controlled by the unbalanced pan system. The weight of the water in the reservoir actuates a contact switch which operates a water valve. There is no float to clog, warp or become inoperative because of scale. The rate of evaporation is controlled by a humidity controller, which can be adjusted to provide evaporation of water from 2 to 28 quarts every 24 hours with constant fan operation.
AIA FILE NO. 30-D-6
MFR: MUELLER CLIMATROL, DIV. OF WORTHINGTON
Circle 216 for further information

AIR SUPPLY AND EXHAUST CENTRIFUGAL FANS

MFR'S DESCRIPTION: *Design 10*, improved series of centrifugal fans, now available.
USES: for air supply and exhaust in air-conditioning, ventilating, industrial processing or mechanical draft applications.
SPECS/FEATURES: improved features of *Design 10* line over mfr's original line are slower speed and lower noise levels. The new design catalogs static pressures of ¼" to 30" in volumes ranging from 440 CFM to 560,000 CFM, and temperatures up to 800° F. The series is designed to operate at low HP requirements. Hollow airfoil shaped blades provide 20 per cent to 40 per cent quieter operation, and increase operating efficiencies. The new fans come in sizes 12¼" to 89" and in five classes of construction. Class I and II fans offer pressures from 5" to 10" SP. Class III, IV, and

2 BUBBLER BEAUTY

HAWS MODEL 10F

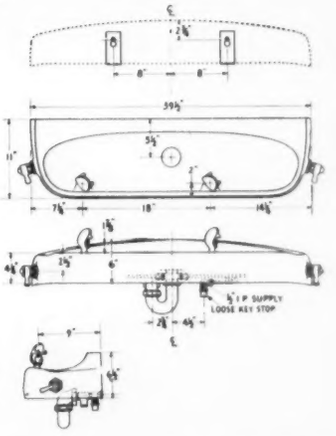
IN COLORFUL FIBERGLASS

DECORATOR 5 COLORS

An accent of color with the graceful sweep of clean design—that's the new HAWS 2-bubbler Model 10F! Patterned after the popular Model 10Y (3-bubbler fiberglass model), this tough, vacuum molded fiberglass plastic unit is equipped with HAWS exclusive anti-squirt, vandal proof fountain heads. All visible trim is chrome plated. Select white or any of *five* decorator colors at no extra cost.

•

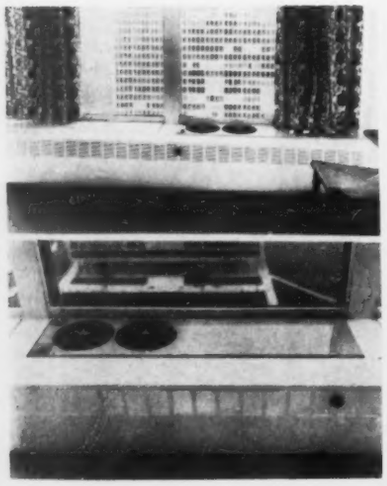
For details on HAWS' full line, write for the latest catalog – or check your Sweets File.



HAWS DRINKING FOUNTAINS
Products of HAWS DRINKING FAUCET COMPANY
1441 Fourth Street, Berkeley 10, California
Export Dept.: 19 Columbus Ave., San Francisco 11, California
Circle 113 for further information

PRODUCTS, EQUIPMENT, MATERIALS

V are heavy duty construction and provide pressures from 15″ to 30″ SP.
AIA FILE NO. 30-D-1
MFR: CHICAGO BLOWER CORP.
Circle 217 for further information



CURTAIN WALL AIR-CONDITIONER

MFR'S: DESCRIPTION: a self-contained unit which can be set into place inside the insulated, weatherproof ventilating and heating cabinet provided under each window as part of the curtain wall building structure.
USES: air-conditioning in curtain wall buildings.
SPECS/FEATURES: in operation, the air-conditioner is similar to standard room units. Specifications are as follows: HP, 1; BTU capacity, 9,000; voltage, 208; amps, 6.2; wattage, 1340; CFW, 200; power factor, 95 per cent; net weight, 135 lbs.; height, 12¼″; length, 51⅝″; depth, 12⅛″.
AIA FILE NO. 30-F
MFR.: AMANA REFRIGERATION, INC.
Circle 218 for further information

HEAT CYCLE DEFROST SYSTEM

MFR'S DESCRIPTION: a line of *HC Heat Cycle* defrost units incorporating a completely automatic, time initiated-temperature terminated defrost system.
USES: defrost systems.
SPECS/FEATURES: an *HCE Inner Fin Evaporator* is combined with a specially engineered *HCX Heat Cycle* Exchanger to produce a fast, safe, and efficient defrost system, according to mfr. Super heated discharge gas from the compressor passes through one side of the exchanger,

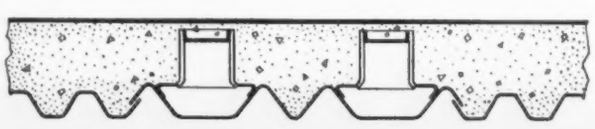
Circle 114 for further information→

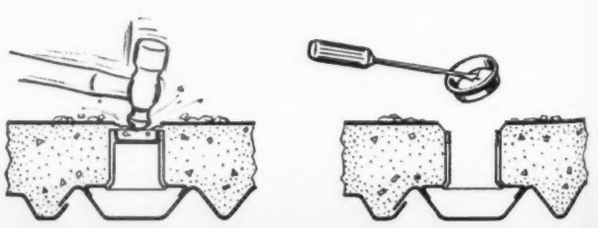
E/R COFAR® with pre-set inserts saves $10.50

$10.50 worth of tangible savings every time a new service outlet is installed—complete wiring flexibility for the life of the building... that's where the benefits of an E/R (Electrically Ready) Cofar floor system pay off. Optional factory-installed pre-set inserts on the E/R Cofar cells are an exclusive Granco feature. Eliminate concrete drilling. No noise. No dust. Speed installation of service outlets even during office hours. Fast! Clean! Economical!

ELECTRIFICATION, REINFORCEMENT, FORM—E/R is a cellular unit which blends with regular Cofar units to provide complete underfloor electrification, reinforcement and form for concrete slabs. During construction, units serve as a working platform.

DESIGN FLEXIBILITY—E/R Cofar is equally suited to steel or concrete frame construction — for spans up to 14′4″—loads up to 250 psf. Provides 2-, 3-, and 4-hour UL fire ratings.





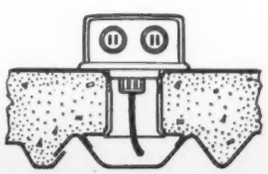
every time a new service outlet is installed*

*Specific project data supplied upon request

COMPLETE ELECTRICAL FLEXIBILITY—Large E/R Cofar cells carry power, phone, signal circuits direct to desks and office machines regardless of location on the floor. Use any spacing of 1-, 2-, or 3-cell units. Any of the UL listed header duct systems can be used.

SAVE TIME AND MONEY—Longer spans reduce structural framing. Fewer intermediate beams save on structural steel weight and beam fireproofing.

For more information, see our catalog in Sweet's or write direct.



E/R COFAR®

Electrification, Reinforcement, Form for Concrete Floor Slabs

GRANCO

GRANCO

TUFCOR • CORRUFORM • COFAR • E/R COFAR
ROOF DECK • VIN-COR • PAVEMENT JOINTS
STAY-IN-PLACE BRIDGE FORMS • GUARD RAIL

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Granco Steel Products Company, Dept. AE-12
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A Subsidiary of Granite City Steel Company

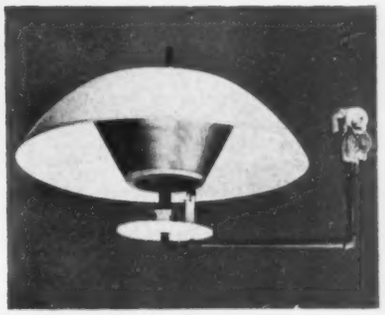
PRODUCTS, EQUIPMENT, MATERIALS

enters the inner tube defrost circuit of the evaporator and defrosts the coil from the inside. Sub-cooled liquid refrigerant returning from the inner tube circuit of the evaporator passes through the other side of the exchanger where it is boiled off before returning to the compressor during the defrost cycle and eliminates consequent motor overload. When defrosting is complete, a temperature sensitive switch (located on the evaporator) terminates the defrost cycle and then provides the necessary fan delay before returning to the normal refrigeration cycle. During the normal cycle, the refrigeration circuit is standard except that the suction gas passes through the exchanger. With nothing flowing through the other side of this exchanger there is no effect on the suction gas. *HC* system includes evaporator, exchanger, and a defrost kit. Capacities run from 4,500 to 72,000 BTU/hr at 10° TD.

AIA FILE NO. 30-F-5

MFR: DUNHAM-BUSH, INC.

Circle 219 for further information



OVERHEAD INFRARED GAS HEATER

MFR'S DESCRIPTION: a new *Space-Ray* overhead infrared gas heater is now being manufactured.

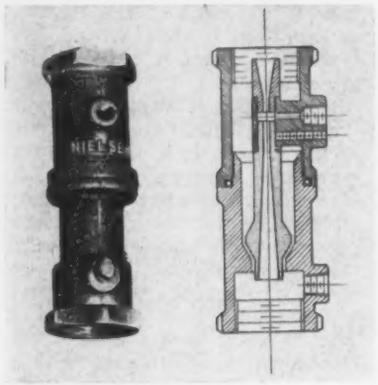
USES: high ceiling industrial and commercial buildings of any size.

SPECS/FEATURES: the heater beams infrared rays directly down from overhead in an even, circular pattern, to warm floors, men, machinery and tools in an efficient manner without having to heat all of the air in the building. Heater gives silent, clean, draftless heat, with no blowers or fans to stir up dust or create drafts. Large buildings can have zoned heating with heater. The unit operates on either natural or LP gas and comes complete with self-energizing thermostat for automatic operation. Over-all height of unit is 16", with

← Circle 114 for further information

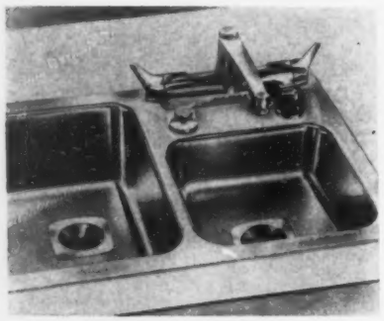
a diameter of 33" and weight of 33 lbs.
AIA FILE NO. 30-B-5
MFR: SPACE-RAY CORP.
Circle 220 for further information

PLUMBING EQUIPMENT



CONTINUOUS FLOW AIR CHARGER

MFR'S DESCRIPTION: the air charger operates through the vacuum generated by a patented venturi action providing a continuous metering of air or other gases into any pipeline carrying a flow of liquid under pressure.
USES: water pressure systems.
SPECS/FEATURES: air chargers can handle water flow from 360 GPH to 6000 GPH at pump pressures varying from 25 lbs. to 90 lbs. Larger capacity designs are under development.
AIA FILE NO. 34-G-3
MFR: NIELSON MANUFACTURING CO.
Circle 221 for further information



ACCESSORIES ADDED TO STAINLESS SINKS

MFR'S DESCRIPTION: the *Tiara*, a solid brass mixing fixture finished in bright chrome and satin combination with a long spout, and a square stainless steel sink strainer are now available.
USES: residential kitchens.
SPECS/FEATURES: the *Tiara* faucet is standard on the two- and three-bowl *Cuisine Center* sinks and is also sold separately, either with or without a spray attachment. The strainer, used in conjunction with mfr's remote control pop-up drain assembly, has a flat, square shape which keeps glassware from tipping into the drain. It also is standard on the two- and three-bowl sinks for use either as a basket strainer or as a strainer-stopper when a waste disposer is not attached. Both fixtures designed by Raymond Loewy Associates, Inc.
AIA FILE NO. 29-H-5, 6
MFR: ELKAY MANUFACTURING CO.
Circle 222 for further information

HEAVY-DUTY WATER SOFTENER

MFR'S DESCRIPTION: a series of low-priced, heavy-duty water softeners.
USES: residential, commercial and institutional applications.
SPECS/FEATURES: known as the *BD* models, they are produced in four basic sizes ranging from 300,000 to 1,380,000 grains capacity and from 40 to 100 gallons per minute output. The *BD* softener includes the *Multiport* valve, and double-dish underdrain which is shipped assembled to make installation easier. Absence of subfill eliminates possibility of upsetting the resin bed and makes installation simpler and less expensive, according to mfr.
AIA FILE NO. 29-D-32
MFR: PERMUTIT WATER CONDITIONING, INC.
Circle 223 for further information

CORROSION CONTROL IN WATER SYSTEMS

MFR'S DESCRIPTION: use of *Nalprep* in corrosion control process announced.
USES: recirculating cooling water systems.
SPECS/FEATURES: control concept is based on a method for initial preparation and protection of metal surfaces of new or freshly acidized cooling water equipment. The preparation consists of removal of materials that interfere with corrosion inhibitor film formation such as oils, greases, rust, etc. According to mfr, the surfaces are then kept in an active state at which time a complete, tough protective film is established. The equipment is then said to be protected and will be maintained in this state with the usually employed corrosion inhibitors during normal operation. Use of *Nalprep* to accomplish this initial step is said to: (1) remove organic and inorganic materials and deposits from metal surfaces; (2) prevent the clean, activated metal from reactivating with anything but the filming inhibitor present in the *Nalprep;* and (3) provide, at the same time, the initial protectiive film of corrosion inhibitor over the entire metal surface.
AIA FILE NO. 34-B-15
MFR: NALCO CHEMICAL CO.
Circle 224 for further information

FLEXIBLE CONNECTORS FOR PUMPS AND PIPELINES

MFR'S DESCRIPTION: consisting of a short section of corrugated flexible metal tubing, protected against pressure elongation by wire braid, these pump connectors are furnished with threaded or flanged end connections to fit all standard piping sizes.
USES: suction and discharge line of all pumps.
SPECS/FEATURES: connectors are available from ¼" thru 16" in stainless steel; ¼" thru 8" in bronze and hot-dip-galvanized steel; and ¼" thru 4" in *Monel.* Available in a wide range of standard stock configurations, the connectors are individually engineered to the specific application for optimum results.
AIA FILE NO. 29-B
MFR: ALLIED METAL HOSE CO.
Circle 225 for further information

BATHROOM FIXTURES WITH MARBLE HANDLES

MFR'S DESCRIPTION: series *#60* fixtures, featuring modern flowing lines, has been added to line of bathroom fittings.
USES: bathroom installations.
SPECS/FEATURES: the *#60-L* basin set features a standard pop-up, 8" to 12" centers for complete flexibility and fits any basin surface with a thickness up to 2¼". Other features include renewable seats and stem assemblies. This design is carried through in the *#60-S* shower set, the *#60-T* tub set, and *#60-D* combination shower and tub set. Both the shower and tub sets have one-piece 8" bodies. The entire line is furnished with white, rose or black marble handles. The fixtures are available in six finishes: satin and polish gold, satin and polished brass, satin and polished chrome.
AIA FILE NO. 29-H-5
MFR: ARTISTIC BRASS, INC.
Circle 226 for further information

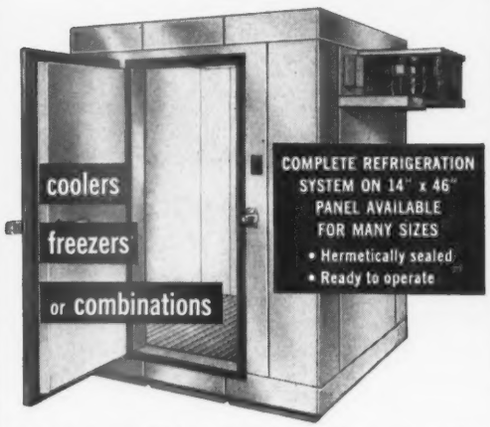
COMPACT GAS FIRED CAST IRON BOILERS

MFR'S DESCRIPTION: series *60*, eight model line of boilers for water or steam are available in standard assembly models with factory packages in three model sizes.
USES: water and steam heating systems.
SPECS/FEATURES: features include high offset cast iron tube construction that establishes a pre-determined height of boiler for all models regardless of size. Jacket and boiler have clean-out doors enabling easy cleaning without removing the jacket. Burners are cast iron with one unit slotted port design incorporating venturi and burner in a single casting for quiet, economical operation. Jacket of steel with two-toned green enamel finish is reported to be attractive and compact. Heavy layers of glass-wool insulate the entire boiler for maximum heat retention. An extra feature is the tankless water coil for supplying domestic water, summer and winter.
AIA FILE NO. 29-D-2
MFR: PEERLESS HEATER CO.
Circle 227 for further information

TWO-BUBBLER DRINKING FOUNTAIN

MFR'S DESCRIPTION: model *10C* two-bubbler wall-hung drinking fountain of acid-resisting enameled iron, introduced.
USES: institutional and commercial applications.
SPECS/FEATURES: new model is similar in design to mfr's model *10F*, made of fiberglass, which was introduced last year. The durable, long-lasting porcelain enameled cast iron unit is standard in white, with a wide choice of colors available at additional cost. The model features two chrome plated raised angle stream fountain heads, "vandal proof" locked to the receptor. Waste strainer

Bally walk-ins
Aluminum or steel sectional construction



Sanitary! Strong! Efficient! You can assemble any size cooler, freezer or combination in any shape from standard sections. Add sections to increase size as your requirements grow. Easy to disassemble for relocation.

ARCHITECTS: see 8 pages of engineering data in Sect. 26/A of Sweet's Catalog.

Bally Case and Cooler, Inc., Bally, Pa.

Get details—write Dept. AN-2 for FREE book

Circle 115 for further information

Lightweight
COMPUTER ROOM FLOORING

EXTRUDED ALUMINUM
ELAFLOR*

Panels of extruded aluminum construction feature strength and low weight. Combination of pedestals, special extruded aluminum stringers and lateral braces insures a firm and rigid substructure.

Cut-outs can be made anywhere that cable or duct passage is required. All panels easily removed for underfloor inspection and maintenance.

In standard modular units with the floor covering of your choice.

* Patented

WRITE FOR FREE LITERATURE AND SPECIFICATIONS
LISKEY ALUMINUM, INC.
Friendship International Airport, Box 506, Glen Burnie, Md.

Circle 116 for further information

PRODUCTS, EQUIPMENT, MATERIALS

and level handles are also chrome plated, and all trim is concealed. Over-all length is 42¼"; shipping weight is 100 lbs.

AIA FILE NO. 29-H-1

MFR: HAWS DRINKING FAUCET CO.

Circle 228 for further information

STAINLESS STEEL TRAY DEAERATORS

MFR'S DESCRIPTION: line of deaerators with all water-contacting tray and tray chest internals fabricated of corrosion resistant stainless steel.

USES: boiler feedwater systems.

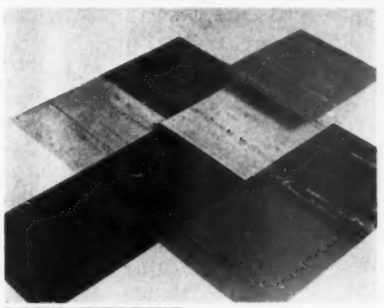
SPECS/FEATURES: tray deaerators are designed to provide protection against corrosion of boiler tubes, internals, feedwater lines, auxiliaries and condensate return lines by removing non-condensable corrosive gases from the boiler feedwater. Boiler tube and equipment life is prolonged, thus greatly reducing costly shutdowns for repairs, states mfr. Integrating this equipment into the boiler feed system pays the added bonus of lowered fuel costs by effecting recovery of heat from exhaust steam that would otherwise discharge directly into the atmosphere.

AIA FILE NO. 34-G-3

MFR: THE PERMUTIT CO., DIV., PFAUDLER PERMUTIT INC.

Circle 229 for further information

WALLS & FLOORS



LONG WEARING FLOOR TILE

MFR'S DESCRIPTION: *New Concept*, utilizing a specially developed binder, *Polymerite*, is announced as a low cost tile which provides unusual durability and vivid colors.

USES: floor applications.

SPECS/FEATURES: the binder used in the tile makes it more highly resistant to grease, oil and mineral spirits, is easier to clean and more economical in application, than ordinary asphalt tile, according to mfr. The tile

PLANK *in luxurious new Trendwoods® for wash-and-wear walls anywhere*

You'll get faster completions, more beautiful results with new Marlite Random Plank. The 16" wide by 8' long planks (¼" thick) are tongued and grooved for easy installation over furring strips or existing walls. Ready to use without painting or further protection, plastic-finished Marlite resists stains, mars, dents — cleans with a damp cloth. See your building materials dealer, or write Marlite Division of Masonite Corporation, Dept. 266, Dover, Ohio.

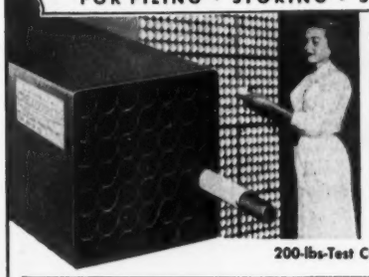
FREE! Send for colorful catalog

Marlite®
plastic-finished paneling

MARLITE IS ANOTHER QUALITY PRODUCT OF MASONITE® RESEARCH

Circle 117 for further information

MULTIROLL FILES
FOR FILING · STORING · SEGREGATING



TRACINGS
BLUE PRINTS
SHEET MATERIAL

FILE CONSTRUCTED IN 200-lbs-Test CORRUGATED CONTAINER

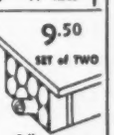
Depth	11¼"	22¼"	30½"	36½"	42¼"
49 Tube Model 1¾" I.D.	49AB $7.50	49CD $9.50	4930 $12.80	4936 $13.80	4942 $14.80
25 Tube Model 2¼" I.D.	25AB $7.00	25CD $9.00	2530 $11.80	2536 $12.80	2542 $13.80
	Shipping Weight				
Model 49	8 lbs.	12 lbs.	15 lbs.	18 lbs.	20 lbs.
Model 25	6 lbs.	10 lbs.	13 lbs.	15 lbs.	17 lbs.

Sold in Sets Only— 2 JR36 Per Set

ENAMELED MED. GRAY

JR 36

DESIGNED TO MOUNT UNDER BOARD MOUNTING BRACKETS FURNISHED.



9.50 SET of TWO

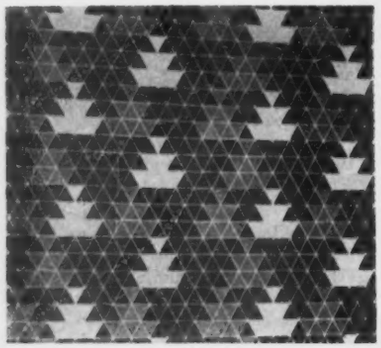
8 lbs. Ship. Wt.

F.O.B. St. Clair Shores, Mich. • PRescott 3-2515 • *SOLD DIRECT ONLY*
Write to Dept. B-2

ROLL & FILE SYSTEMS, INC. · P.O. BOX 3863, DETROIT 5, MICH.

Circle 118 for further information

is offered in 37 colors and various patterns. Retail price is approximately 15¢ per tile.
AIA FILE NO. 23-G
MFR: THE MASTIC DIV., THE RUBEROID CO.
Circle 230 for further information



ADDITION TO LINE OF CERAMIC TILES

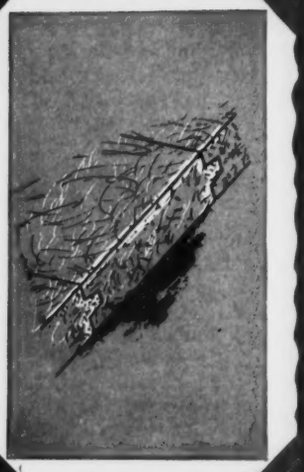
MFR'S DESCRIPTION: addition of new colors, patterns and shape to line of *Byzantine* ceramic tiles is announced.
USES: general tile applications.
SPECS/FEATURES: light blue and pale green have been added to the six original "earth" colors. The new shape is a 2" equilateral triangle. Original shapes are: diamonds, squares, and diagonal halves of squares. Colors include: tan, black, light gray, red, pebble white, and dark gray.
AIA FILE NO. 23-A-2
MFR: MOSAIC TILE CO.
Circle 231 for further information

MAP MURAL WALLCOVERING

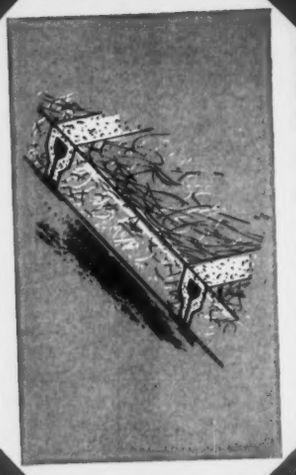
MFR'S DESCRIPTION: a creative innovation that adds educational advantages to a practical, inexpensive decoration for school walls.
USES: classrooms, offices, corridors, etc.
SPECS/FEATURES: printed on heavy stock with waterproof inks, these up-to-date and highly detailed maps provide attractive highlights on wall areas in and out of the classrooms.

Circle 119 for further information→

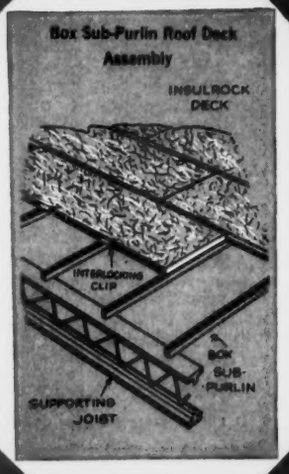
NEW ADDITIONS
that make your best choice
FLINTKOTE INSULROCK® *Roof Decks*



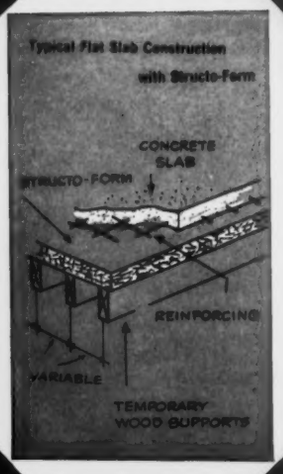
Interlocking Joint, including Painted Bevel, for joist and beam construction aligns roof deck better, installs easier, improves insulation, distributes loads better.



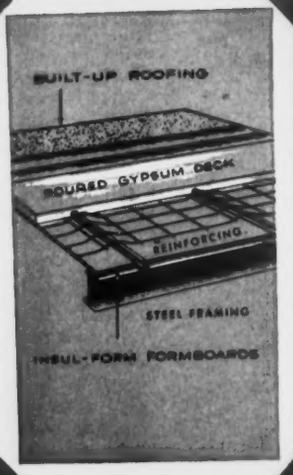
Chamfered Edges of improved Flo-Easy design for sub-purlin construction increase resistance to uplift, make for continuous stronger joints.



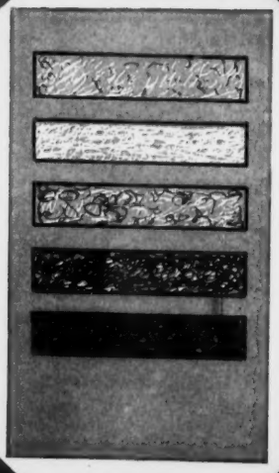
Box Sub-Purlin assembly gives new flexibility to open construction design, reduces costs.



Structo-Form provides uniform, lightweight, strong building planks for flat slab or reinforced concrete construction, producing a handsome finished ceiling.



Insul-Form offers great advantages as formboards in poured gypsum or lightweight concrete decks.



Insul-Tones bring you Insulrock in five striking pastel colors—blue, yellow, green, beige, and pink—an Insulrock exclusive!

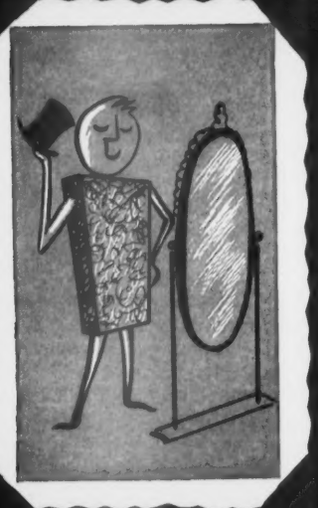
...added to the outstanding advantages of regular

INSULROCK *features such as these:*

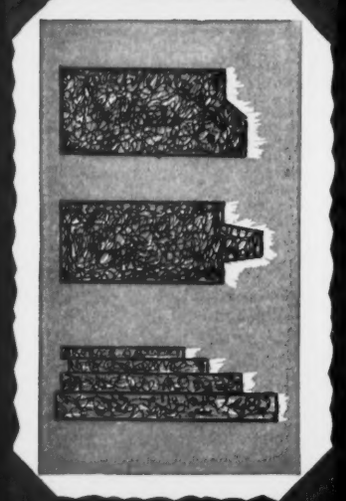
Insulating Insulrock maintains a K factor of 0.51.

Acoustical Insulrock traps up to 85% of incident noise.

Strength & Weatherability of Insulrock protects roof decks against rot, fungi, and termites — strength assured well above ultimate load requirements.



Beautiful Insulrock has random-textured surface with exclusive Insul-Glo 70* finish that makes possible light reflectance of 60-70%.



Special Edge Treatments and Variety of Standard Sizes give you the right Insulrock roof deck for every job.

Executive Office:
New York, N. Y.
General Sales Office:
Richmond, Virginia
Plants:
North Judson, Indiana;
Richmond, Virginia
District Sales Offices:
Chicago, Ill.;
Cleveland, Ohio;
Dallas, Texas;
Greensboro, N. C.;
Los Angeles, Calif.;
New York, N. Y.

THE FLINTKOTE COMPANY
INSULROCK DIVISION

FLINTKOTE®

Specify the best deck on the market . . . INSULROCK — for beauty that stands up through the years.

Member of the Structural Wood Fiber Products Association

*A trademark of The Flintkote Company

PRODUCTS, EQUIPMENT, MATERIALS

Map murals are available in four sizes: 112″ x 69″; 86″ x 54″; 64″ x 42″; 50″ x 38″. The maps are identical except for size and scale, and are shipped rolled on a tube to prevent creasing. They are installed by standard wallpapering methods.
AIA FILE NO. 28-C
MFR: AMERICAN MAP CO., INC.
Circle 232 for further information

GOLD FUSION ON ENAMEL TILES

MFR'S DESCRIPTION: white and gold *scribble* tile is a fusion of delicate gold lines on a background of hard-glaze, white enamel tile.
USES: residential bathrooms.
SPECS/FEATURES: tile is stated to be particularly suited for use with gold finished metal fixtures and hardware. Tile is also available in white on backgrounds of delft blue, laurel pink, parchment, and mist gray. On porcelain enamel, it comes in charcoal *scribble* on white and white on black. The 4¼″ x 4¼″ tiles are priced no higher than mfr's plain enamel or porcelain tiles.
AIA FILE NO. 23-A-2
MFR: VIKON TILE CORP.
Circle 233 for further information

STEEL-REINFORCED CONCRETE FILIGREE PANEL

MFR'S DESCRIPTION: a steel-reinforced, concrete filigree panel known as *Sculp-Stone.*
USES: interior and exterior applications.
SPECS/FEATURES: *Sculp-Stone* is produced in a 1′ x 6′ panel, 1¾″ thick with steel-reinforcement throughout every member. Mfr points out that panels afford great structural strength while retaining a light, airy feeling because of its slender construction. Installation costs are reported less because as each panel is erected, six square feet are in place. The basic panel, designed to eliminate all maintenance costs, is priced competitively, by the square foot, with the common filigree block.
AIA FILE NO. 10-C
MFR: DORIAN INTERNATIONAL
Circle 234 for further information

PLYWOOD SUBFLOOR AND UNDERLAYMENT

MFR'S DESCRIPTION: a premium grade of 2-4-1 plywood combination subfloor and underlayment with extra-thick veneers and moisture-resistant glue lines.
USES: subflooring.

←Circle 119 for further information

SPECS/FEATURES: called *Acrypolyrene House Paint*, the finish not only eliminates the need for oil or latex primers on previously painted surfaces, but also combines advantages superior to those previously associated with latex paints, according to mfr. User benefits include: smooth, effortless application; better hiding power; less-than-an-hour drying time; uniform, tough finish that lasts longer, holds its color more years; successful application when surfaces are damp from dew or rain; quick cleanup with soap and water; no need for linseed oil or turpentine, states mfr.
AIA FILE NO. 25-B-25
MFR: LUMINALL PAINTS, DIV., NATIONAL CHEMICAL & MANUFACTURING CO.
Circle 235 for further information

DOORS & WINDOWS

LINE OF DECORATIVE SOLID-CORE DOORS

MFR'S DESCRIPTION: line of six decorative entry doors.
USES: mfr states that doors were designed for custom homes, top-priced tract homes, and remodeling applications.
SPECS/FEATURES: each design consists of decorative hardwood blocks and strips applied to the face of a solid-core door. Edge of doors are finished with soft wood edge strips at least ¾" wide. All door edges are sanded and eased. Core is faced with birch plywood panels ⅛" thick before sanding. Both faces are smooth sanded. Top quality flat white enamel undercoat is applied to both face and edges. Size: 1¾" x 3'0" x 6'8".
AIA FILE NO. 19-E-1
MFR: THE BELLWOOD CO., DIV., PACKARD BELL ELECTRONICS
Circle 236 for further information

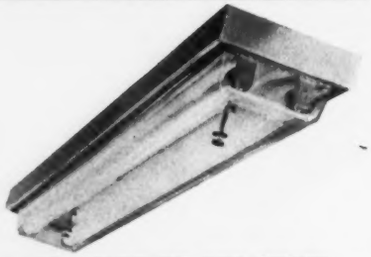
AUTOMATIC DOOR WITH CONCEALED OPERATING UNIT

MFR'S DESCRIPTION: an automatic door with maximum use of glass since the operating unit is completely concealed in the 5" x 5" overhead door frame, with no air vents or external attachments needed.
USES: super markets, groceries and other retail stores.
SPECS/FEATURES: the door opens electrically using power equivalent to a 100 W bulb. Power is transmitted into fast and strong operating action through unique application of the ball bearing screw drive principle. Closing action is effected hydraulically. The door can be opened manually in case of power failure and will still close automatically. Safety features include safety switch to prevent door opening when obstruction is in the way, finger guards to prevent finger mashing at door hinge, and panic release to allow door to be opened in reverse of its normal direction in case of emergency. Thermal disconnects prevent overheating and restrict fire danger. Internal moving parts are permanently sealed in oil and never require oil servicing. *Roto-Matic* is available in complete aluminum entranceway packages or as operator unit only.
AIA FILE NO. 16-D
MFR: ROTO-SWING DOOR CO.
Circle 237 for further information

ALUMINUM TOP-HUNG IN-SWING WINDOW

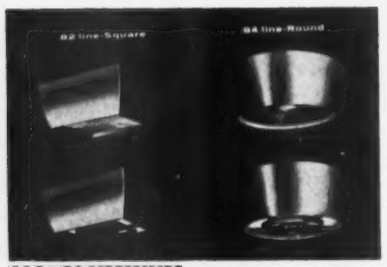
MFR'S DESCRIPTION: *Series 900-TH* is an aluminum top-hung, in-swing window with a hopper vent at the sill for buildings where emergency ventilation is required.
USES: designed primarily for use in multi-story air-conditioned buildings where a minimum of air infiltration is required.
SPECS/FEATURES: in addition to hopper vent, other combination units may also be obtained with the use of vertical mullions and fixed side lights. According to mfr, other advantages include a special key and removable stay bar that allows the window to be operated by authorized personnel only, positive lock in a 40° open position, concealed heavy manganese bronze hinges, double vinyl weatherstripping, solid or tubular vents, and an etched and lacquered finish. All window members are extruded 6063-T5 aluminum alloy.
AIA FILE NO. 16-E
MFR: REPUBLIC STEEL CORP.
Circle 238 for further information

LIGHTING UNITS



DUST/MOISTURE RESISTANT LIGHTING FIXTURE

MFR'S DESCRIPTION: the *D.M.R.* unit, a new dust and moisture resistant fluorescent lighting fixture, has been introduced.
USES: food handling and processing locations.
SPECS/FEATURES: product is a two-lamp, 4' fixture for individual or continuous mounting. Available with either clear or diffusing acrylic plastic enclosure. Mfr states fixture has special features to give better performance where cleanliness is important and wherever it is desirable to protect lamps, electrical component and reflecting surfaces from dust, dirt, moisture and other foreign matter. Fixture has completely smooth top which permits flush mounting. One-piece plastic enclosure allows quick visual maintenance inspection, and smooth surface and rounded corners make cleaning easy. Entire lamp assembly is covered and securely gasketed to keep out foreign matter. Fixture can be hosed down.
AIA FILE NO. 31-F-21
MFR: THE MILLER CO.
Circle 239 for further information



ALL ALUMINUM DOWNLIGHTING

MFR'S DESCRIPTION: lines *82* and *84* are all aluminum downlighting units with hinged, two piece housings.
USES: covered walkways, under canopies, shower, locker, game and all-purpose rooms, etc.
SPECS/FEATURES: lines are completely gasketed and UL approved as enclosed and gasketed (vaportight). Choice of prismatic lenses or heavy cast carrara diffusers designed for use with 150 W, medium base incandescent lamps. Satin anodized finish provides permanent, non-corrosive finish. Optional features include: integral cast aluminum guard, tempered glass diffusers and tamperproof screws making them especially suitable for installation in prisons, psychiatric wards and other maximum security areas.
AIA FILE NO. 31-F-21
MFR: MCPHILBEN LIGHTING, INC.
Circle 240 for further information

SHALLOW SURFACE MOUNTED FLUORESCENTS

MFR'S DESCRIPTION: *Slenderline*, a new, shallow contour, surface mounted line of fluorescent lighting fixtures, announced.
USES: ceiling illumination.
SPECS/FEATURES: fixtures are only 3¼" deep over-all. Made in two models: 1' by 4' for two rapid start fluorescent lamps; and 2' by 4' for four or six rapid start lamps. Diffusers include plastic louver lens and drop acrylic. Other features include: side mounted ballasts for cooler operation and longer life; hinged, envelope type, metal diffuser frame which may be opened from either side, or removed and replaced without tools; and indirectly lighted metal sides which blend the fixture into the ceiling to form an unbroken ribbon of light. Finished in baked-on enamel.
AIA FILE NO. 31-F-21
MFR: SOLAR LIGHT MANUFACTURING CO.
Circle 241 for further information

FLUORESCENT FIXTURE WITH MAGNIFYING LENS

MFR'S DESCRIPTION: a fluorescent lamp with an optically ground, double-convex magnifying lens designed for precision work.
USES: laboratories, studios, shops and assembly plants for drafting, fine-assembly and inspection work.
SPECS/FEATURES: the lens has a focal length of 13 inches and a power of three diopters. A 22 W circline fluorescent tube supplies cool, shadow-free illumination that minimizes eyestrain and fatigue and assures visual accuracy, according to mfr. The lamp has a G.E. ballast and is UL approved. A 26 inch swinging arm provides complete flexibility and freedom of movement. It is reported to attach easily, with screws or a self-clamp, to any desk, drawing board or table. (Lamps with weighted bases, requiring no special attachments, are also available.)
AIA FILE NO. 31-F-21
MFR: ACME LITE PRODUCTS CO., INC.
Circle 242 for further information

ROOFS & CEILINGS

GOLDEN GRID ACOUSTICAL SUSPENSION SYSTEM

MFR'S DESCRIPTION: *Direct-Hung Exposed Grid* acoustical suspension system is now being offered in a tarnish-proof golden finish known as *Golden Grid.*
USES: acoustical ceiling applications.
SPECS/FEATURES: system is reported to provide exceptional structural

THE ALL-NEW

P&S® ROCKER-GLO SWITCH

...the switch that *looks* right, *feels* right and *is* right for every type of wiring job.

Here is the one switch with the most wanted features on the market today.

The merest touch causes instant, silent action... and Rocker-Glo glows in the dark.

Available in Despard and narrow rocker types.

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Circle 120 for further information

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FREE TO ARCHITECTS

70-page heating and cooling design handbook featuring low cost zone control hot water and electric baseboard heat!

This comprehensive reference guide tells you how to get zone control heating and cooling for little more than the cost of non-zone systems. Ideal for schools, churches, apartment houses, shopping centers, homes, industrial parks.

ONLY EDWARDS OFFERS A COMPLETE HEATING AND COOLING SYSTEM—including packaged boilers, long length Box-Fin baseboard radiation, compact motorized zone valves and electric baseboard radiation featuring low surface temperatures. Write today for your free handbook!

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"One of the nation's largest manufacturers of Residential and Commercial Boilers, Baseboard and Steel-Fin Radiation, Motorized Valves, Air and Water-Cooled Refrigerant Condensers."

Circle 121 for further information

PRODUCTS, EQUIPMENT, MATERIALS

strength and will support light fixtures as well as air diffusers without extra hangers in many cases. System is accessible at any point. Mfr suggests use of system for low-cost installations. Offers wide choice of ceiling materials, including acoustical board, luminous and perforated metal panels, and cement-asbestos board.

AIA FILE NO. 39-P

MFR: EASTERN PRODUCTS CORP.

Circle 243 for further information

FIRE/ROT RESISTANT ROOF DECKING

MFR'S SPECIFICATIONS: *T Deck* and *Cavity Deck*, two new types of rot-resistant, fire-resistant asbestos-cement roof decking, now available.

USES: as structural deck for built-up roofing, particularly suited to "wet processing" plants.

SPECS/FEATURES: inorganic asbestos-cement composition of products will not deteriorate in areas where condensation and high humidity might rot conventional wood decking and rust steel decking. Provides finished non-flaking ceiling that needs no paint or maintenance and gives good light reflectivity. *T Deck* weighs 8 lbs. psf installed and *Cavity Deck*, 10 lbs. psf. Each unit of deck is light enough to be set in place without the use of handling equipment. *T Deck's* maximum span is 8′, *Cavity Deck*, 10′. Thickness of sheet is ⅜″ in both cases. Individual units are rapidly assembled "dry" without bedding or filling—permitting installation in severe winter weather.

AIA FILE NO. 12-B

MFR: KEASBEY & MATTISON CO.

Circle 244 for further information

CELLULAR-GLASS ROOF INSULATION BOARD

MFR'S DESCRIPTION: *Foamglas-Board*, composed of *Foamglas*, a lightweight, incombustible, cellular glass material, now available.

USES: roof insulation applications.

SPECS/FEATURES: available in 24″ x 48″ boards, each weighing about 10 lbs. Size leads to easier handling and

SPECIFY FLAMORT "WC"

For "Built-In" Fire Safety

Be sure of positive, permanent fire protection on new or existing construction!

FLAMORT "WC"—Fire Retardant is listed by Underwriters' Laboratories, Inc, and is approved by State and City Fire Marshals. Complies with Federal Specifications SS-A-118 b and Uniform Building Code 1958, Sec. 4203, Table 42A, Class II.

FAST, EASY APPLICATION—On the job or at the mill by immersion or spraying.

COLORLESS—Does not change color or appearance of wood, plywood, cellulose or acoustical board or paper. Non-toxic. Odorless. Does not affect heat or sound insulating qualities of any material. Treated surfaces can be painted, varnished or lacquered.

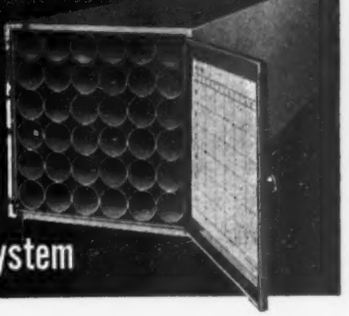
LOW COST—Packaged in dry concentrate form, cuts shipping costs. Nothing to add but water. Contact us *today* for complete information on FLAMORT "WC" and other tested Flamort Fireproofing products.

FLAMORT

FLAMORT CHEMICAL COMPANY
Mfgrs. Fireproofing Chemicals
746 NATOMA STREET
SAN FRANCISCO 3, CALIFORNIA

Circle 122 for further information

STACOR Lifetime Steel
Staktube
Roll File



low-cost—
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Circle 123 for further information

limits number of joints in roof area. Product produced by sandwiching several 1½"-thick blocks of *Foamglas* between two layers of laminated kraft paper, using special asphalt for adherence. The laminating paper is held back ⅛" from the edge of the board to permit tightly butted joints that can be sealed with roofing bitumen. Ultimated compressive strength of product is as much as 7 tons psf. Product reported impervious to moisture and vapor. Cuts readily with a standard roofer's knife.

AIA FILE NO. 19-D
MFR: PITTSBURGH CORNING CORP.
Circle 245 for further information

ROOF PROTECTOR AGAINST ICE AND SNOW DAMAGE

MFR'S DESCRIPTION: introduction of *No Freeze Miracle Roof Protector*, which provides new, economical way to end costly ice and snow damage.
USES: roof installations.
SPECS/FEATURES: unit features a special de-icing chemical solution enclosed in a sturdy 5½" by 5½" brass cannister that installs easily over all standard drainspouts. In freezing weather, the special chemical dissolves automatically, keeping drains free from ice and snow and providing clear drainage channels for water on roof.
AIA FILE NO. 19-D
MFR: DAVID LEVOW, INC.
Circle 246 for further information

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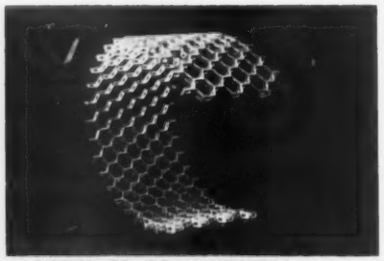
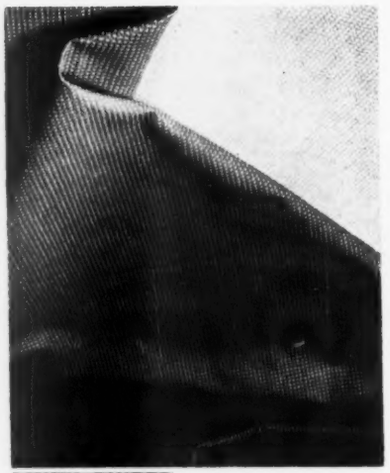


ALUMINUM ORNAMENTAL HONEYCOMB GRILLE

MFR'S DESCRIPTION: *Aluminum Gridsteel*, an ornamental grille of honeycomb design, offered.
USES: curved or flat applications, both interior or exterior, such as: sun deflectors, curved or flat screens, wall panels, canopies, decorative trim, contoured ceilings, and imbedded in floors or ceilings to create mosaic tile effect.
SPECS/FEATURES: product is made of aluminum bars on edge, so formed as to provide a honeycomb mesh when they are fastened together by means of integral lugs clinched through corresponding slots in adjoining bars. Depth of bars can be from ¾" to 1½", and the thickness of bars either .083" or .100". Standard panel sizes are 3' x 10', 4' x 8', and 4' x 4', or special sizes according to specifications. Panels may be rigid or flexible. Flexible panels may be formed by hand on the job into various radii down to 1'-9". Grille is available in colors through anodizing, or may be painted. Clear anodized or clear lacquered finishes also available.
AIA FILE NO. 15-T
MFR: IRVING SUBWAY GRATING CO., INC.
Circle 247 for further information

PORTABLE LAB FUME HOOD

MFR'S DESCRIPTION: the *Flexihood*, portable lecture-demonstration fume hood, is reported to be completely redesigned.
USES: educational.
SPECS/FEATURES: redesigned model features increased interior height providing additional room to perform many experiments; sloping safety glass panels, at the student side, providing greatly increased observation areas, and an increase in the over-all size. The *Flexihood* is constructed of stainless steel with a baked phenolic resin finish. An understructure rolling on 4" diameter swivel type casters is furnished with the hood. This understructure can be constructed of either hardwood or steel. Hood comes complete with 110 V, AC, 4000 RPM blower, having a capacity to move 50 lineal feet of air, per minute, through the open panel; one 36" single tube fluorescent light fixture with bulb; power pack and blower enclosure containing one duplex 110 V, AC, electric outlet, blower and light switches; one cold water waste receptor; one gas hose connector; and one 42" length of 2" diameter flexible vinyl ductwork.
AIA FILE NO. 35-E
MFR: KEWAUNEE TECHNICAL FURNITURE CO.
Circle 248 for further information



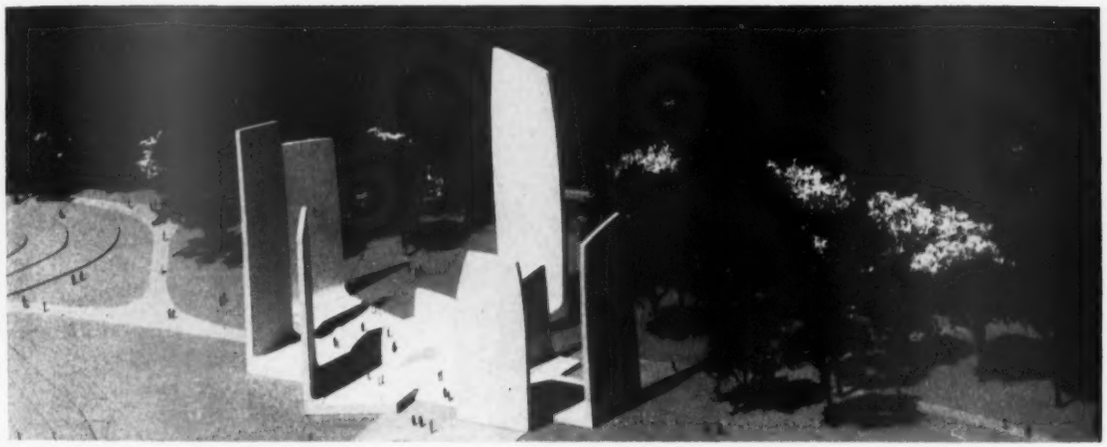
LINEN TWEED VINYL UPHOLSTERY

MFR'S DESCRIPTION: *Brigadoon*, a fully coated vinyl upholstery material which is printed and embossed to simulate mfr's *Scotch Linen* tweed line, has been introduced.
USES: upholstery applications.
SPECS/FEATURES: fabric is reported to be most breathable fully coated vinyl available. New perforation process allows air circulation through thousands of invisible pores, dissipating heat and vapor and resulting in a cooler, more comfortable material. An elastic cotton knit backing assures smoother application and greater durability. Material is fully washable. The new pattern is being introduced in six color combinations: beige and white, black and white, two-tone green, two-tone blue, two-tone yellow and two-tone red.
AIA FILE NO. 28-F
MFR: KNOLL ASSOCIATES, INC.
Circle 249 for further information

THE ANATOMY OF A NEW PROJECT

PREVIEW: 26

THE FRANKLIN D. ROOSEVELT MEMORIAL COMMISSION | *client/project*
WILLIAM F. PEDERSEN & BRADFORD S. TILNEY | *architects*
NORMAN HOBERMAN | *sculptor*
JOSEPH WASSERMAN, DAVID BEER | *associates*
AMMAN & WHITNEY | *structural engineers*



The announcement of the winning entry in the Franklin D. Roosevelt Memorial Commission has elicited a barrage of comments ranging from the anguished hysteria of the New York Daily News *(who in an editorial on January 16, 1961, questioned whether the late President rates a memorial in the first place and then went on to criticize the winning design as a "monstrosity," likening it to "the nightmarish exhibits in the Museum of Modern Art"), to the comment of the Board of Directors of the American Institute of Architects who said in part, "The Commission has appointed a most distinguished jury which has performed a commendable service to American architecture and the nation by selecting an outstanding design."*

Statement of jury

The statement of the Jury is as follows:

"The jury feels that the winning entry has met the basic requirement of the Competition by giving a clear image of Mr. Roosevelt's greatness through carefully chosen excerpts from his writings over the period of his presidency. His humanity, his charity and concern for all people emerge with great force.

"The monumental quality of the project comes from the simplicity with which this idea is transmitted. Although the basic form is so elemental as to be virtually the outgrowth of tradition, the vast concrete planes emphasize the intervening spaces as positive entities, thereby providing a total image which is firmly identified with the 20th Century.

"As one moves onto the various levels of the platform the views change and new spaces acquire significance. As a monument it satisfies the visitor's desire to apprehend the whole from many approaches and is visible, but without massiveness, from the distance. Among its many virtues is the way its open character incorporates the natural beauty of the landscape, including altering views of the Potomac River and the Tidal Basin, in which the bright shafts are reflected. Added to this the shifting play of light and shadow as the sun traverses the sky animates the structure and imparts a sense of living reality to enhance its spiritual meaning."

General program

The concept of the Franklin Delano Roosevelt Memorial was molded by two factors. The first was the site with its very specific relationships to monumental Washington; the second was the need to provide a memorial in contemporary terms. The designers' solution is a memorial composed of a series of vertical elements or steles set into the landscape. Inscribed upon them are quotations from the writings and speeches of FDR, which were selected in association with Dr. Frank Freidel, Harvard Professor of American Civilization and FDR biographer, and includes remarks from an address scheduled for delivery the day after FDR's death. The steles are turned back into each other at the base to form a series of spaces on different levels through which the visitor freely circulates. The specific form, number, and arrangement of the steles were determined by the nature, quality and sequence of the spaces that the designers desired. It is their intent to so involve the viewer in this spatial sequence as to create a "memorable experience" in which his awareness of the ideals expressed by the inscriptions is greatly enhanced. The size and height of the steles were determined by the desire to have them relate in size and scale to the Jefferson and Lincoln Memorials. They wished them to be seen in the landscape above the trees, but did not want them to be so high as to compete with the one dominant vertical form in the landscape, the Washington Monument. (The tallest of the tablets would be 165 feet high, compared with 556 for the Washington Monument.)

Landscape and site considerations

The landscape and site development was designed to heighten the experience of approaching the memorial and to provide a fitting setting for it. Great care was exercised to preserve the existing landscape features, particularly the cherry trees and large elms. Within the 26.4 acre area of the memorial only nine trees greater than 10" in diameter have been eliminated. New planting is shown to supplement that which is existing and to further define and create spaces.

The path system is designed to produce the maximum drama in approach to the memorial and to preserve the cherry walk; but it is also the intention of the design to permit free pedestrian circulation on all landscaped surfaces surrounding the memorial. The area of grass is large enough to permit this type of undirected motion without undue wear and tear on the ground surfaces. Since there is not, at present, an adequate pedestrian route between the Lincoln and Jefferson Memorials, the designers wished to provide this circulation and make a series of spatial sequences linking the existing memorials.

Illumination

The memorial and paths leading to it shall be illuminated after dark. High intensity lights, normally concealed in the floor slabs of the memorial and in the surrounding landscape, will open in the evening, and beams of light will be directed up against the slabs. The housings will not interfere with the movement of visitors during daylight hours.

Structural considerations

The structure of the memorial is of reinforced concrete using special white marble aggregate, white fines and white Portland cement. The vertical elements are of cellular construction, having walls from 8 to 12 inches in thickness depending on live load and dead load considerations with the exception of the center stele which will be poured monolithically to provide the weight needed to stabilize and balance the cantilever unit.

The floor system consists of flat slabs supported by diaphragm walls tieing the vertical elements together and stabilizing them. The entire surface is carried on a pile system extending to firm material some 60 feet below the ground surface. The calculated deflection of the highest and most critical unit will be approximately three inches under wind forces of hurricane intensity. The structure is jointed around each platform and through each stair system to create relatively small compact units so that cracking due to volumetric changes will be controlled and insignificant. The structural engineers have assured the designers that no other cracks due to deflection, shrinkage or internal stresses will appear on the exposed surfaces. The cellular walls are to be constructed in the same manner as is commonly used for grain elevators and silos using movable or slip forms. The construction time for the basic structure is estimated to be one year.

Material considerations

The construction of the vertical slabs and platform sidewalks will be of concrete using a white cement, white marble aggregate and white marble fines throughout. The surfaces will be bush hammered to an average depth of ⅛" exposing the crystalline structure of the marble aggregate. The floor surface will be of polished terrazzo laid over the structural slab. Terrazzo risers and treads will be used for the stair construction. The aggregate cement and color will be similar to the vertical steles. The designers point out that their selection of finish materials must necessarily remain tentative until exhaustive tests and further research fully guarantee that the surfaces will have the desired quality, uniformity and permanence required of such a structure. Their objective is the maximum degree of brilliance in an unjointed, homogenous surface.

Costs

Total building cost of memorial	$2,815,340.00
Total site development cost	989,026.00
Total construction cost	$3,804,366.00
Architects, engineers, landscape architects, sculptors and other consultants fees estimated to be	$450,000.00
Grand total	$4,254,366.00

LITERATURE

Literature cited in this department is available from various manufacturers and associations free of charge, except where indicated. To obtain copies, circle the keyed numbers on the reader service cards facing pages 1 and 54.

CURTAIN WALL SEALANT

Preformed Sealants for Curtain Wall Construction, a current brochure offering, describes and illustrates the mfr's various synthetic rubber products for sealing, supporting, spacing and imparting resiliency to the glazing units employed in curtain wall construction. Specifications, details and installation instructions are furnished for structural gaskets, and for both wet seal and dry seal compression gaskets. (4 pp.)

AIA FILE NO. 17-J

MFR: PAWLING RUBBER CORP.

Circle 300

AC TEMPLATE OFFERED

A template for dual duct air-conditioning layouts is being offered. The template, made of flexible, translucent plastic material, has both ¼" and ⅛" scales. Openings in both scales are provided for all available air mixing units, from 60 CFM to 4000 CFM. The mfr states the template "will prove to be an invaluable tool in the hands of those who lay out dual duct systems, both as a timesaver and an instrument for the exact scale reproduction of air mixing units."

AIA FILE NO. 31-F-21

MFR: BUENSOD-STACEY CORP.

Circle 301

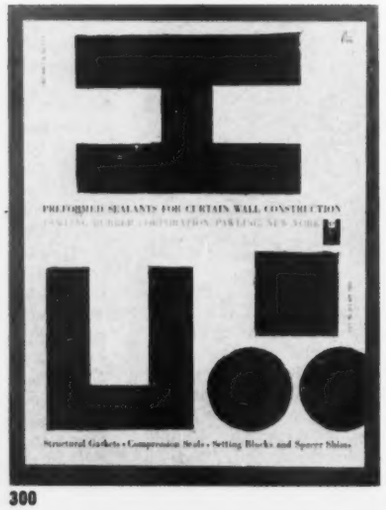
CUSTOM-DESIGN VINYL TILE

Architect's kit offered for design of custom-colored vinyl tile flooring. Mfr can supply as little as 2,000 square feet of custom-colored vinyl tile at no increase in cost over standard tile. Kit permits architect to design a custom vinyl terrazzo tile. Included in kit are sample bottles containing aggregate or color chips in 35 colors, and sheets of matrix or background material in 14 colors. Also included are tile samples printed on the reverse side with the exact proportion of various aggregates used to achieve pattern. Sample 9" x 9" tiles may be obtained through order cards supplied with kit.

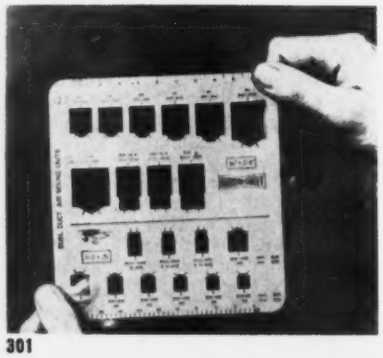
AIA FILE NO. 23-D

MFR: NATIONAL FLOOR PRODUCTS CO.

Circle 302



300



301

302

SPRAYED ASBESTOS

The availability of an illustrated technical catalog on sprayed asbestos coatings for fireproofing, insulation, and acoustical control has been announced. Specification tables showing light reflectance, fire hazard classification, sound absorption, fire retardant ratings, and coefficients of heat transmission are also included. The bulletin describes the characteristics of two basic coating types, soft and hard. It provides information on application, characteristics and advantages. Examples of sprayed asbestos ceilings and walls of various commercial, educational and industrial buildings are illustrated. Sprayed asbestos coatings are referred to by the tradename *Spray-Craft*. (4 pp.)

AIA FILE NO. 37-A

MFR: SPRAYCRAFT APPLICATION DIV., EMJAY MAINTENANCE CORP.

Circle 303

CERAMIC TILE

Three current brochures cover various aspects and applications of ceramic tile. Booklet 211, *Ceramic Tile*, contains general information, installation methods and color catalog for mfr's line of tiles and china bathroom accessories for residential, educational, commercial and industrial applications. (36 pp.) Booklet 610, *How Ceramic Tile Gives You Better Looking Schools At Lower Cost* (4 pp.) and Booklet 620, *Ceramic Tile for Schools*, discusses the various applications in school cafeterias, gymnasia, locker and shower rooms, laboratories, etc. (20 pp.)

AIA FILE NO. 23-A

MFR: AMERICAN OLEAN TILE CO.

Circle 304

WOOD IN CHURCHES

Invitation to Worship, illustrated in full-color photographs, features examples of outstanding contemporary American church buildings, emphasizing the aesthetic and structural qualities of wood. Included are: the Church of the Redeemer, Baltimore, Pietro Belluschi, FAIA, and Rogers, Taliaferro and Lamb, AIA, associated architects; Concordia Evangelical Lutheran Church, Conover, N.C., A. G. Odell & Associates, AIA; First Baptist Church of La Jolla, Calif., Mosher & Drew, AIA; Temple Israel, Swampscott, Mass., Pietro Belluschi, FAIA; and many more beautifully photographed examples. (26 pp.)

AIA BUILDING TYPE NO. 31

ASSN: NATIONAL LUMBER MANUFACTURERS ASSN.

Circle 305

FOREST PRODUCTS CATALOG

A 1961 forest products catalog, consisting of a series of four color booklets, has just been released. The sections covered are: (1) decorative paneling; (2) siding, fir paneling, sheathing and subfloor-underlayment; (3) overlaid and standard fir plywoods; and (4) hardboards. Booklets are illustrated with product photos and application examples and contain useful reference material on stock sizes, specs, finishing methods, and other data. (20 pp., 8 pp., 4 pp., and 8 pp.)

AIA FILE NO. 23-L

MFR: GEORGIA-PACIFIC CORP.

Circle 306

WASTE DISPOSAL PLANTS

Bulletin No. *417* has been issued on subject of factory built plants for waste treatment. Covering mfr's total oxidation plants, bulletin contains condensed design tabulation for populations of 10 to 3,000; design criteria for domestic sanitary wastes; diagram of typical waste treatment plant for various popula-

tions from 10 to 150 people; and components of typical plant. Of particular interest is data on approximate design considerations for wastes from various sources as a guide for projects in areas where no design requirements or minimum standards have been established by regulatory agencies.
AIA FILE NO. 29-C-2
MFR: AMERICAN WELL WORKS
Circle 307

ACOUSTICAL IN-LAY SYSTEM
Publication is announced of a color booklet describing a fire-protective, acoustical lay-in system. The lay-in panels, approximately 2′ x 4′ in size, rest in a unique type of exposed grid system designed to withstand the intense heat of a fire. They can be lifted out at any time to permit easy access to plumbing lines, air-conditioning ducts, and other concealed utilities. The booklet, called *A Significant New Development in Fire-retardant Ceilings,* includes specifications for the lay-in units. (12 pp.)
AIA FILE NO. 39-B
MFR: ARMSTRONG CORK CO.
Circle 308

HVAC

ELECTRIC HEATING

Fresh Air Electric Heating by Lennox is a recent brochure offering which analyzes the use of electricity for house heating. Along with treating the requirement of good house construction, the brochure presents the various methods of heating by electricity and demonstrates the desirability of ducted systems. System design is treated including a description of the various supply outlets and how they should be applied. Required air circulation volume, where the heat is best applied, thermostat control and the matter of zoning are also dealt with. A brief discussion of mfr's electric heating products, ap-

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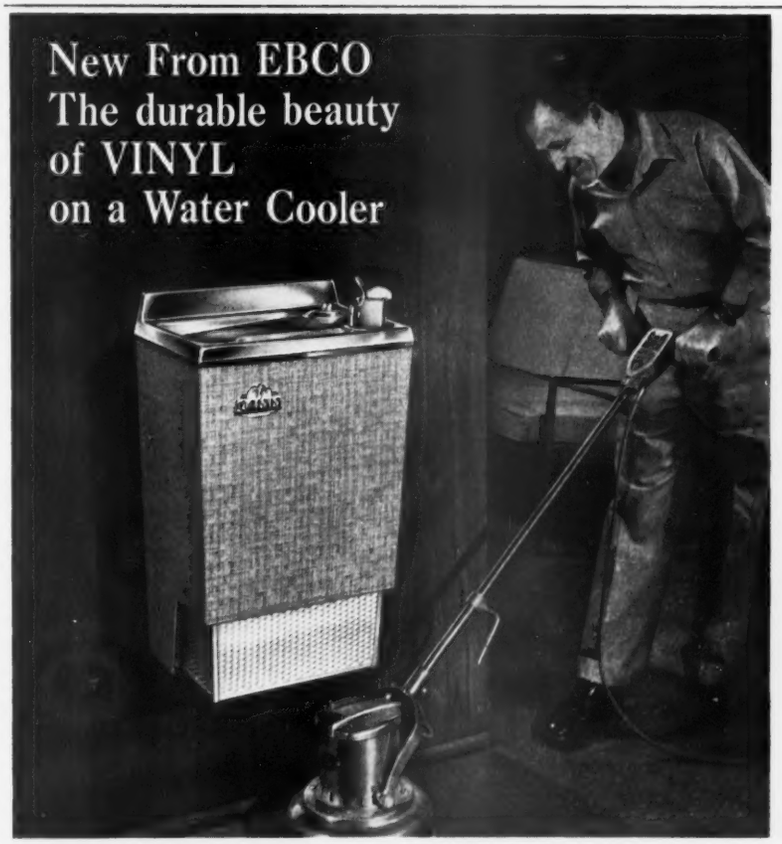

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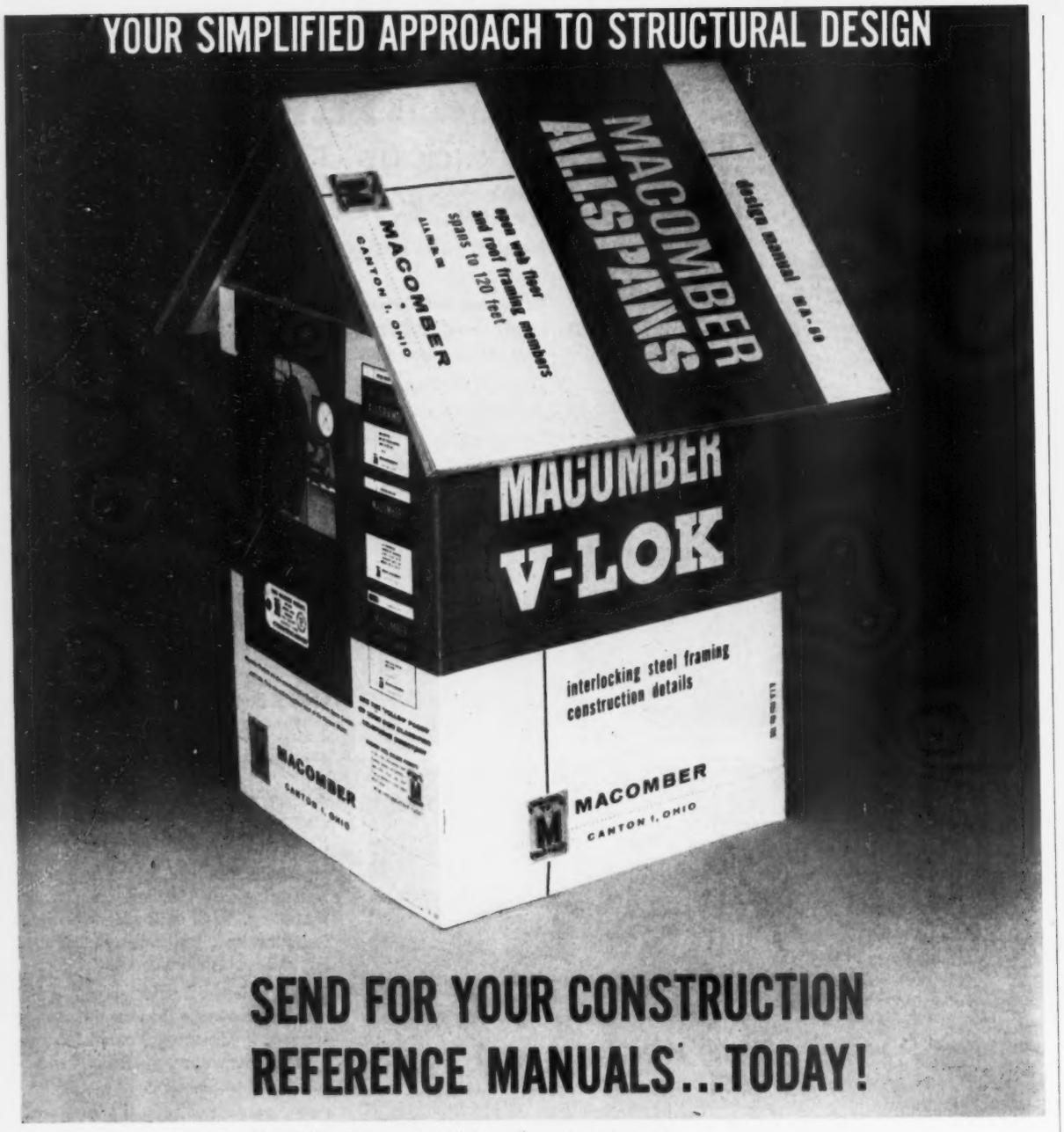

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AEN 61

Circle 127 for further information

LITERATURE

plications, and floor plans with recommended duct layouts are included. (40 pp.)
AIA FILE NO. 30-B
MFR: LENNOX INDUSTRIES INC.
Circle 309

ROOF EXHAUST FANS

Brochure on contour roof exhaust fans and brochure on low velocity, high capacity fans offered. Both contain such information as: dimension table and diagram, capacity table, cut-away view, typical specification and actual installation photos. (each 4 pp.)
AIA FILE NO. 30-D-1
MFR: DAVIDSON FAN CO.
Circle 310

AIR FILTER BULLETIN

Current bulletin, *B-1400-8*, describes and illustrates four models of *V-7 Roll-Kleen* Air Filters, which offer a choice of automatic drive or manual operation for advancing the media across the face of the filter, similar to the action of the film-loading device in a box-type camera. Design considerations of construction, ease of installation, ready access, replacement of media roll, and high reliability are discussed. Photographs and sketches highlight important features and show how multiple units may be assembled together to handle large air volumes up to almost any requirement. Technical data includes dimension drawings, capacity tables, instructions on how to select the proper unit for the service, and an explanation on ordering. (8 pp.)
AIA FILE NO. 30-D-3
MFR: FARR CO.
Circle 311

COMPONENT CONSTRUCTION

CURTAIN WALL MANUAL

A new and completely revised edition of the *Metal Curtain Wall Manual*, containing more than double the volume of information in the original manual published in 1959, is now available to architects. A great deal of reference information and technical guidance has been added, including four new sections dealing with design principles, design data, testing and installation. In addition to updating and revising the bibliography section, the section on specifications has been improved. Specifications for windows and panels are included. Reference standards, supplementing the specifications, have been revised. The manual will be sent without charge to all holders of the first edition. Architectural offices that do not have a copy of the

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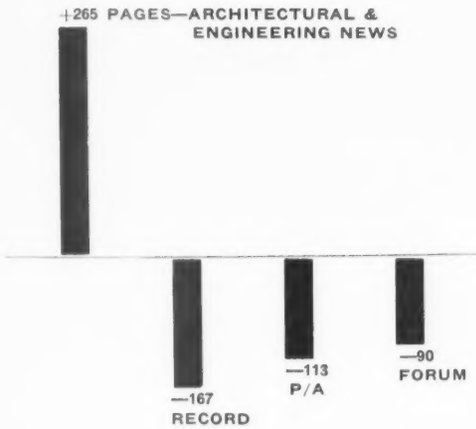

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RECORD, P/A, AND FORUM—370 PAGES

*Source: INDUSTRIAL MARKETING, January, 1961

LITERATURE

original manual should request a copy of the revised manual on the firm's letterhead. Additional copies will be available at $3.50 per copy. Requests should be sent to: National Assn. of Architectural Metal Manufacturers, 228 N. LaSalle St., Chicago 1, Ill.
AIA FILE NO. 17-A
ASSN: NATIONAL ASSN. OF ARCHITECTURAL METAL MANUFACTURERS
Write association directly

CURTAIN WALL PANELS

Recent four-color brochure describes line of porcelain enameled curtain wall panels. Four basic panels are shown, and many variations in panel combinations are outlined. Special emphasis is placed on innovations in curtain wall panels, with a major section of the catalog devoted to thorough descriptions of colors, finishes, textures and patterns now available. A section of the catalog also provides information and illustrations of porcelain enameled expanded-metal grilles. (8 pp.)
AIA FILE NO. 17-A
MFR: ARCHITECTURAL DIV., ERIE ENAMELING CO.
Circle 312

SANDWICH PANELS

The first comprehensive information booklet on *Ply-Veneer* panels for building has been released. *Ply-Veneer*, a kraft-overlaid-veneer sandwich panel, has been finding an unusual variety of applications as a cost-saving utility panel in both home and commercial building, mfr reports. Among the most important uses have been for wall paneling, ceiling tile backing, room dividers, partitions and screens. *Ply-Veneer* is now available in natural kraft surfaces and in a clean white. It can be painted effectively, and worked with ordinary wood-working tools. Working and finishing techniques are described in the brochure, and plan sheets on numerous building projects are also available. (8 pp.)
AIA FILE NO. 19-E-6
MFR: SILVATEK DIV., WEYERHAEUSER CO.
Circle 313

METALS/METAL PRODUCTS

STEEL SPECIFICATIONS

Two new standard steel specifications have just been released with the stated objective of insuring satisfactory finished appearance while keeping construction costs in line. The Specification and Loading Tables for Open Web Steel Joists (Longspan or L-Series) has also been adopted by

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Circle 129 for further information

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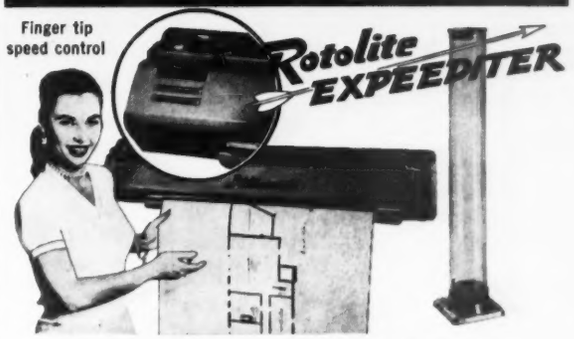


FOR INDIVIDUAL OFFICE USE

Finger tip speed control for whiteprints, sepias and foils
Fastest Diazo Lamp on market
Priced below all other makes
Rotolite prices start at $129.50

SEND THIS COUPON
ROTOLITE SALES CORP., Stirling, N. J. Millington—7-1040 2E
Please send literature on Rotolite "Expeediter"
Name .....
Concern .....
Address ..... City ..... State .....

Circle 130 for further information

LITERATURE

the Steel Joist Institute and supersedes the earlier AISC-SJI jointly adopted specification which has appeared in the AISC *Manual of Steel Construction* since 1955.
AIA FILE NO. 13-G
ASSN: AMERICAN INSTITUTE OF STEEL CONSTRUCTION, INC.
Circle 314

ALLOY STEEL SERIES

Two brochures describe mfr's new alloy steel series. They contain detailed mechanical and chemical information about the properties of *Jalloy-S*, the constructional series, and *Jalloy-AR*, the abrasion-resistant series. Tables list chemical and mechanical properties of the steels, plus selected engineering information. The text covers major considerations in using and fabricating the new steels. (6 pp. each)
AIA FILE NO. 13
MFR: JONES & LAUGHLIN STEEL CORP.
Circle 315

METALS BUYERS GUIDE

An illustrated Buyers' Directory of mfr's products and services is now available. The directory includes information on aluminum, brass, bronze, copper, nickel, silver, rhenium, stainless steel and zirconium. Information on mill orders is included. A detailed listing of mill products and specialties is given. Products literature, films, sales helps, and the location of mfr's multi-metals service centers is listed. (16 pp.)
AIA FILE NO. 15
MFR: CHASE BRASS & COPPER CO.
Circle 316

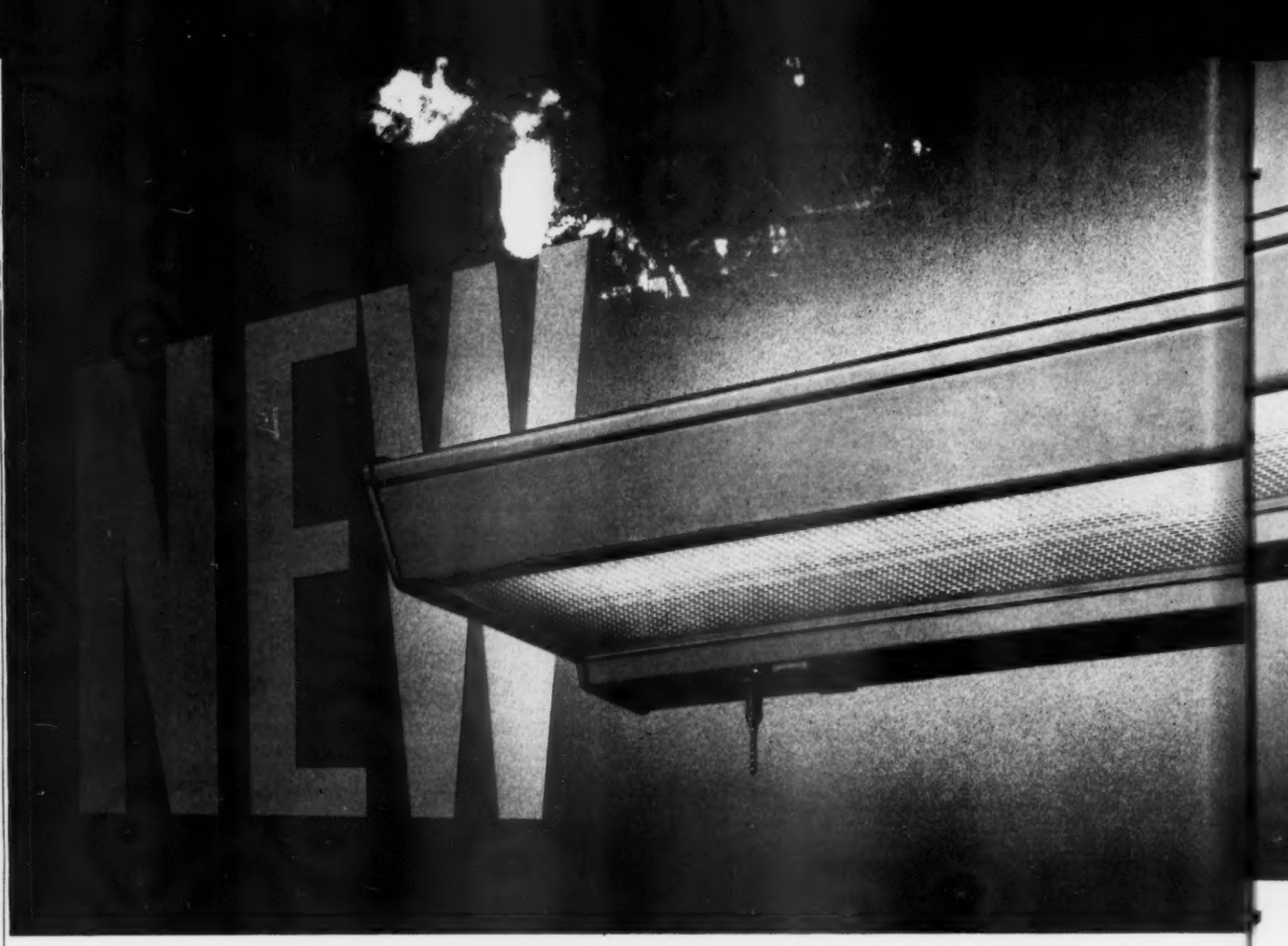
FLEXIBLE METAL HOSE

Catalog No. *539* describes and illustrates line of flexible metal connectors in carbon steel and stainless steel. Includes complete specifications and a comparative analysis of the advantages and limitations of both types of metals for specific applications. Sixteen standard models are shown and other models announced as available.
AIA FILE NO. 29-B-41
MFR: COBRA METAL HOSE
Circle 317

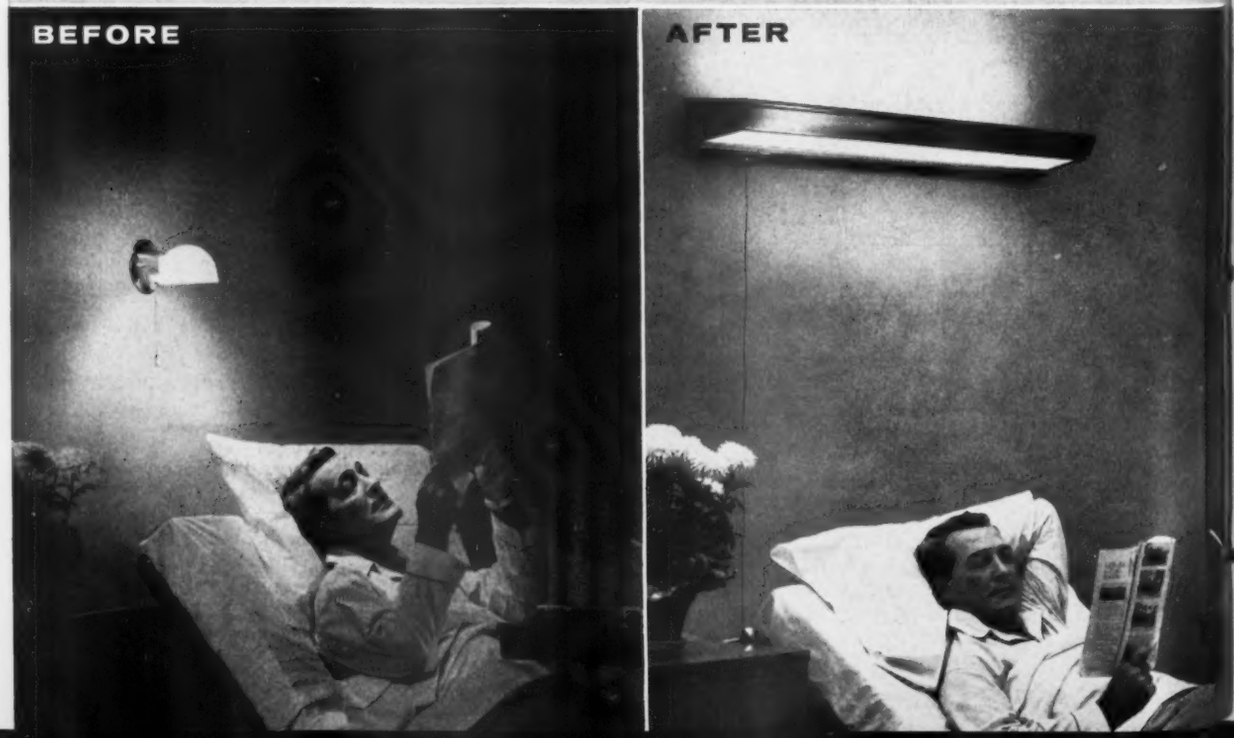
GUTTERS/DOWNSPOUTS

Aluminum gutters and downspouts are the subjects of current installation booklet. Replacing an earlier edition, the new booklet includes complete information on mfr's five-inch OG system, the four-inch gutter, and the five-inch-half-round version. All of these systems are available in mill or embossed fin-

Circle 131 for further information →



See the difference TRANQUILITE makes in transforming a cold, harshly-lighted hospital room into an attractive, modern setting. Patients look better, see better . . . even feel better!



TRANQUILITE ...a "Decidedly Better" Hospital Bed Light by DAY-BRITE

- Switching provides reading light, night light and general illumination
- Convenient electric outlet for examining light, electric razor or radio
- No annoying glare . . . ideal for multiple-patient rooms and wards
- Available in 2 or 4-foot lengths, stainless steel or baked white enamel finish

First time you see it you'll know that here's a behind-the-bed fluorescent hospital fixture worthy of the Day-Brite name—with the clean lines and quality look you expect from America's first name in lighting equipment.

But only when you have seen it **in action** can you fully appreciate what an amazing difference TRANQUILITE makes. Cold, clinical-looking hospital rooms take on new warmth . . . become more inviting. In older rooms, TRANQUILITE's soft illumination hides defects . . . adds a modern touch.

TRANQUILITE is just one of a complete line of "Decidedly Better" Day-Brite fixtures for every hospital need. All are/**easy to install/ easy to clean/easy to maintain.** Get the full story from your Day-Brite representative, or write: **Day-Brite Lighting, Inc., 6260 N. Broadway, St. Louis 15, Mo., and Santa Clara, Calif. In Canada: Amalgamated Electric Corp., Ltd., Toronto 6, Ont.**

DAY-BRITE

NATION'S LARGEST MANUFACTURER OF COMMERCIAL AND INDUSTRIAL LIGHTING EQUIPMENT

LITERATURE

ishes. A pre-painted, baked-on white enamel is also offered on the OG and box gutters. Items discussed in the illustrated booklet include joining, end caps, clips, eave tubes, hangers, and expansion joints. The prevention of electrolysis and methods of maintenance are also covered. (6 pp.)
AIA FILE NO. 12-P
MFR: ALUMINUM CO. OF AMERICA
Circle 318

ALUMINUM GRILLES

A specification manual is offered on architectural anodized aluminum grilles. Contains complete specifications on the variety of standard geometric patterns, dimensions, and colors in which material is available. Illustrations are included of industrial, commercial and residential applications. Construction details of different types of applications—as a curtain wall, as a solar screen, as a walkway, and others—are fully illustrated with technical drawings.
AIA FILE NO. 14-P
MFR: KLEMP INTERNATIONAL
Circle 319

PIPE RAIL SYSTEM

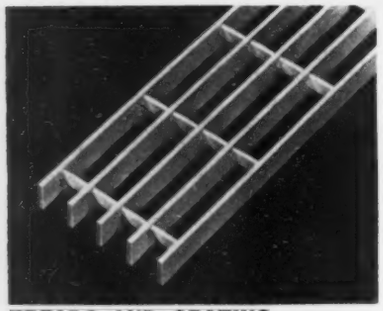
Connectorail Bulletin No. *0111* describes and illustrates a complete aluminum, non-welded, flush-fitting pipe rail system designed for quick, economical assembly and for perfect color match when alumilited. Detail drawings, dimensions, and assembly data are furnished for all components of the system, including pipe, connector sleeves, tees, elbows, flanges, brackets, and other fittings. Also included is an angle fitting selector chart, which shows recommended angles for each tread-to-riser ratio, and angle tee templates for use in locating holes for joining angle tees of both 1¼" and 1½" pipe. Keyed elevation drawings illustrate typical use of the various components. (6 pp.)
AIA FILE NO. 14-D-4
MFR: JULIUS BLUM & CO., INC.
Circle 320

SCAFFOLDING EQUIPMENT

Special catalog covering mfr's "hard-to-find" line of scaffolding equipment now available. The catalog includes photographs, data, and prices on such items as suspended cable scaffolding, pump jacks, wall scaffold brackets, roof brackets, ladder accessories, adjustable steel scaffolding, plus many other equipment items.
AIA FILE NO. 36-E
MFR: NEWARK LADDER AND BRACKET CO., INC.
Circle 321

←Circle 131 for further information

LITERATURE



TREADS AND GRATING

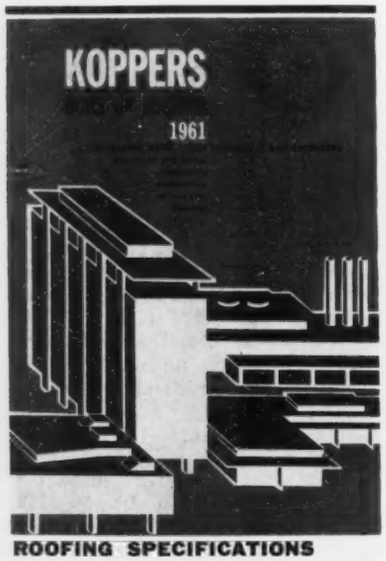
Aluminum and steel treads and grating are treated in two recent brochure offerings. Fully illustrated with details, brochures contain such data as: table of safe loads, weights and types, panel width in inches, conversion factors, and complete specs. (4 pp. and 12 pp.)

AIA FILE NO. 14-R

MFR: KERRIGAN IRON WORKS CO.

Circle 322

ROOFING



ROOFING SPECIFICATIONS

Complete specifications for constructing a built-up water-tight roof are contained in 1961 edition of *Built-Up Roofing Specification Manual for Architects and Engineers.* Brochure includes instructions on materials and methods for installations on both flat decks and steep roofs and on all types of surfaces. Re-roofing, insulation, flashings, waterproofing and dampproofing are also covered. Specifications describe conditioning of the surface, step-by-step application of the roofing materials, preparation of materials, and bonding conditions. (28 pp.)

AIA FILE NO. 12-B

MFR: KOPPERS CO., INC.

Circle 323

ROOF INSULATION

A manual on roof insulation board manufactured from natural wood fibers, is available. It covers product descriptions, specifications and very complete and well-illustrated material on application. Data on heat transmission, condensation and fuel and radiation requirements is provided. (24 pp.)

AIA FILE NO. 37-A

MFR: INSULITE

Circle 324

INSULATING ROOF DECK

Recommended product and application specifications for structural insulating roof deck have been released by the Insulation Board Institute. The new specifications, which have been approved by the 14 member companies, contain chapters on product description, methods of testing, minimum physical requirements and application instructions. The specifications have been submitted to the Federal Housing Administration, and it is believed that they will be distributed shortly to all regional FHA offices along with a covering FHA use of materials bulletin for insulating roof deck. Copies of the complete specification may be obtained by writing on letterhead to: Robert A. LaCrosse, Technical Director, Insulation Board Institute, 111 W. Washington St., Chicago 2, Ill.

AIA FILE NO. 37-B-2

ASSN: INSULATION BOARD INSTITUTE

Write association directly

LIGHTING

MERCURY VAPOR LAMPS

Comprehensive manual on mercury vapor lamps issued. Contains information on nearly all phases of mercury lamps including light output, life ratings, and electrical and physical characteristics. In addition, it describes lamp construction, designations, color rendition and necessary auxiliary equipment. Manual discloses important increases in initial light output of a number of mercury lamps and contains a valuable section on applications of the lamps. (28 pp.)

AIA FILE NO. 31-F-22

MFR: WESTINGHOUSE ELECTRIC CORP.

Circle 325

FLUORESCENT UNITS

Mfr's complete line of suspended commercial fluorescent lighting units are described in current Commercial Lighting catalog (Bulletin C) now available. Included are the *Catalina* series, the *Versateer*, the *B-Series*, and the *Coronado* series. A number of other commercial units are outlined in this catalog complete with all technical specifications and illumination data. Diagrams of the various fixtures as well as charts of coefficients of utilization are available.

AIA FILE NO. 31-F-21

MFR: BENJAMIN DIV., THOMAS INDUSTRIES INC.

Circle 326

LIGHT DIFFUSING PANELS

Wide line of light diffusing panels for ceiling lighting systems are treated in 1961 brochure. Material is fully illustrated with accompanying descriptive data. A reference chart listing characteristics of various products and approximate installation costs is particularly useful to architect or engineer. (8 pp.)

AIA FILE NO. 31-F-231

MFR: LUMINOUS CEILINGS INC.

Circle 327

PARTITIONS/ENCLOSURES

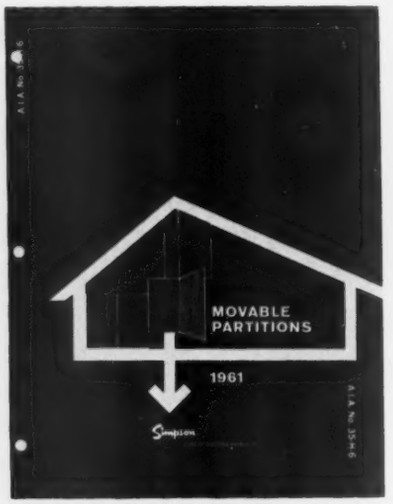
TOILET ENCLOSURES

Fiat toilet enclosures are fully described in recent brochure. Contains information on hardware, and specifications on various types of enclosures: ceiling-hung, floor supported, headrail-braced, junior type, and shower-cabinet dressing units. Information is comprehensive and well organized for architect's use. Contains color chart. (16 pp.)

AIA FILE NO. 35-H-6

MFR: FIAT MANUFACTURING CO.

Circle 328



MOVABLE PARTITIONS

A fully-illustrated 1961 catalog on line of movable partition panels is now available. This booklet contains graphic drawings of various systems and applications of mfr's line of prefinished, movable partition panels. Technical information, installation tips, specifications and physical properties, including sound attenuation charts also are included. Four-color illustrations feature the three authentic woodgrain finishes and primed standard hardboard finish in which the partitions are available. Matching wall paneling and flush doors, in either standard heights or *Seven-Eleven* ceiling height, may be obtained in identical woodgrain finishes. (8 pp.)

AIA FILE NO. 35-H-6

MFR: SIMPSON TIMBER CO.

Circle 329

PIPES & TUBES

ASBESTOS-CEMENT PIPE

Recent brochure describes product features and physical details of asbestos-cement pressure pipe for water systems. The brochure highlights the installation and maintenance economies possible with mfr's pressure pipe, and explains the advantages of mfr's coupling in providing leak-tight seals. A table of inside and outside diameter, wall thickness and approximate weight per foot, for standard sizes and classes for pressure pipe, is given. (4 pp.)

AIA FILE NO. 29-B-6

MFR: KEASBEY & MATTISON CO.

Circle 330

PORTABLE DUCT TUBING

A brochure, *The Facts About Spiratube,* is offered. It describes construction and uses, and gives specifications of the lightweight, rugged, portable duct which is used for ventilation, materials handling and fume and dust removal systems. (4 pp.)

AIA FILE NO. 30-D-4

MFR: FLEXIBLE TUBING CORP.

Circle 331

ELECTRICAL EQUIPMENT

CIRCUIT BREAKER UNITS

Two major changes in mfr's circuit breaker loadcenters are covered in bulletin no. *NI-100.* The first introduction is a complete new line of *Uni-Pak* loadcenters for the *EQ-T* dual circuit breaker; and the second, the new 100 ampere two-pole *EQ-T* circuit breaker. The loadcenter incorporates the new non-interchangeability provisions, UL approved. Contains illustrations, specifications, wiring diagrams, selection charts and circuit breaker pricing table. (12 pp.)

AIA FILE NO. 31-D-4

MFR: WALKER DIV., I-T-E CIRCUIT BREAKER CO.

Circle 332

DISTRIBUTION EQUIPMENT

Buy Log catalog covers low-voltage distribution equipment. Designed to serve as a condensed buying catalog, the *Buy Log* provides complete buying information heavy-duty safety switches, CLF current-limiting fuses, hinged wireway, circuit breakers,

Circle 132 for further information about MOSAIC TILE →

THE MOSAIC TILE COMPANY — BYZANTILE PATTERNS IN CERAMIC MOSAIC — A.I.A. FILE NO. 23-A

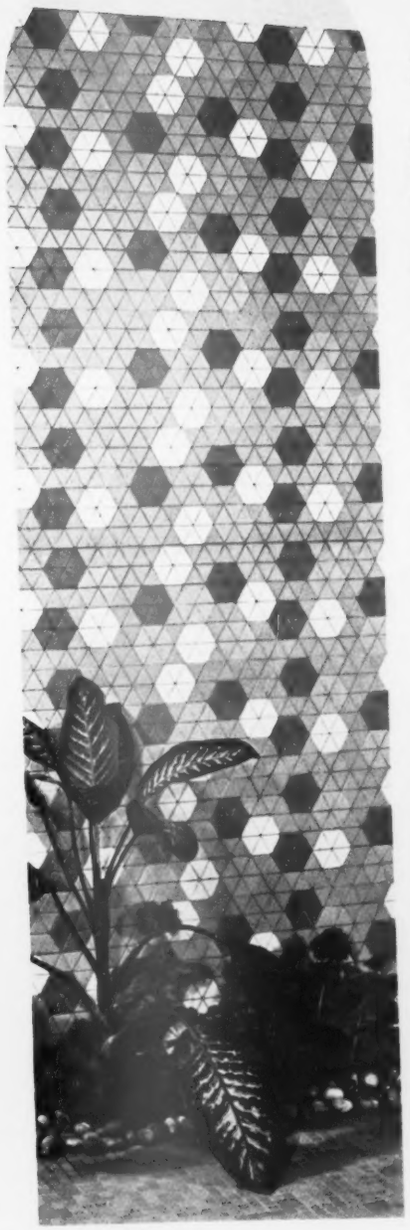
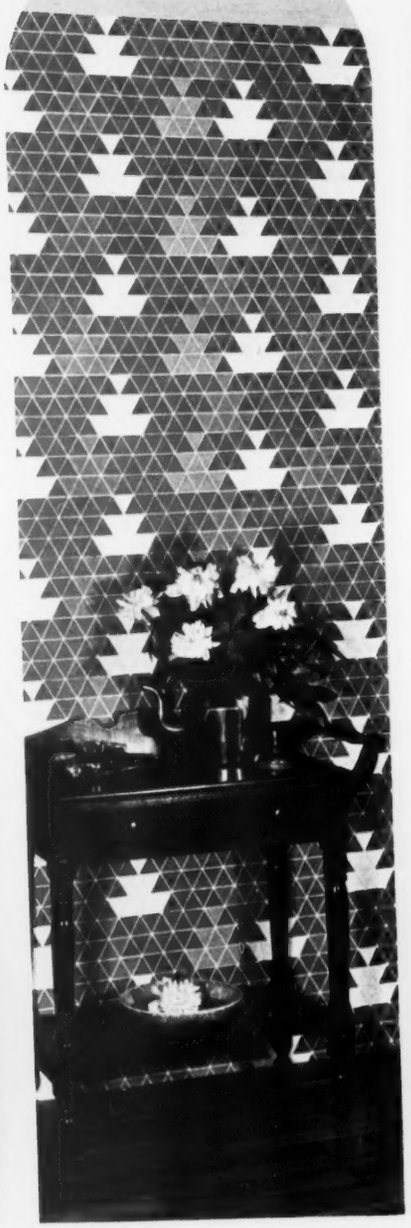


Plate No. 699



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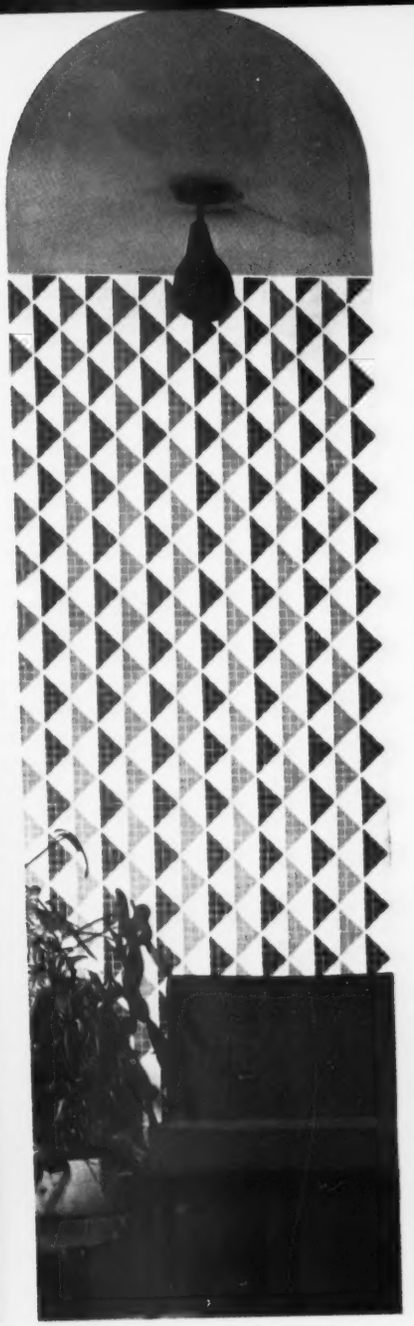
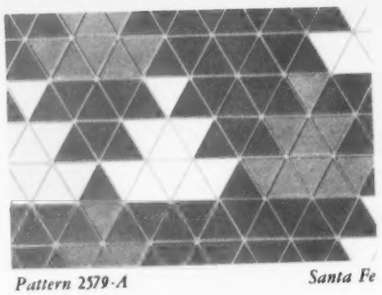
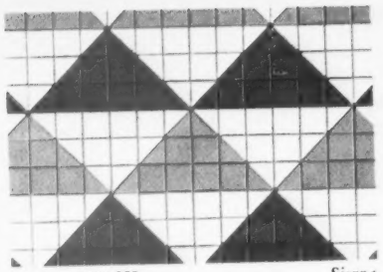


Plate No. 584

Pattern 2578-A — *Cascade*



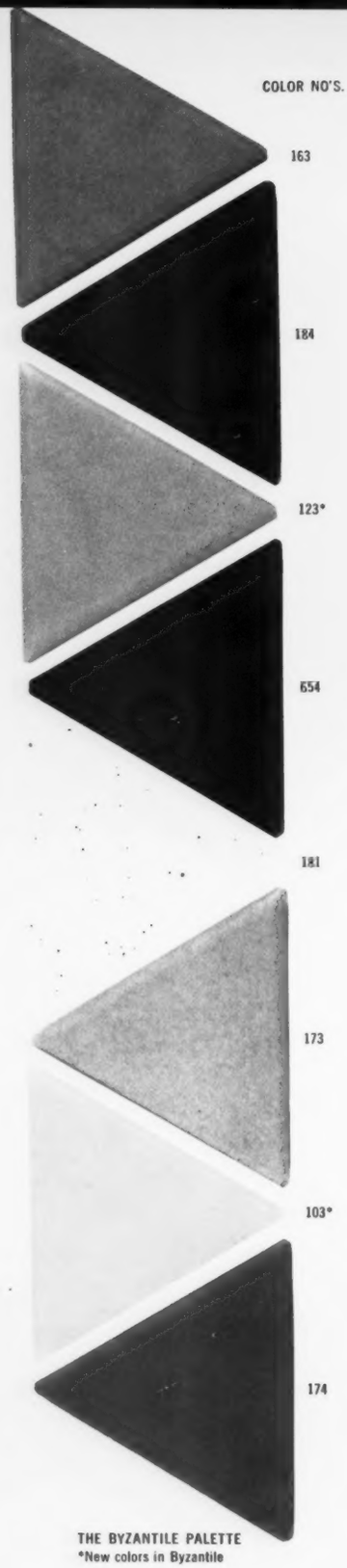
Pattern 2579-A — *Santa Fe*



Pattern 2551-N1 — *Sierra*

Byzantile® by MOSAIC®

THE MOSAIC TILE COMPANY BYZANTILE PATTERNS IN CERAMIC MOSAIC A.I.A. FILE NO. 23-A



THE BYZANTILE PALETTE
*New colors in Byzantile

New design prospects in

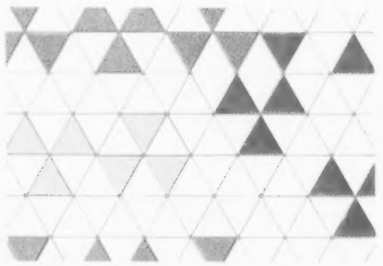
Byzantile® by MOSAIC®

The dramatic range of Byzantile patterns in ceramic mosaic has now been enriched with the addition of new tile colors, new patterns, a new tile shape.

On the left (with the original Byzantile palette) are the two newest colors: a light blue, a pale green. All in the new shape, a 2" equilateral triangle. And, below, one of the new Byzantile patterns, No. 2577-A, employing the new triangle. See also Patterns 2578-A and 2579-A on the reverse page.

The scope and vitality of Byzantile has offered architectural designers unusual opportunities. These new additions make prospects for frontier breaking even more interesting.

And the beauty of it all . . . Byzantile makes an indelible impression. Whether used in public buildings or private homes, indoors or out, the designer knows that the architectural spirit he creates will remain faithfully unchanged,



Pattern 2577-A
Bromley

THE MOSAIC TILE COMPANY
Member: Tile Council of America, Inc. and The Producers' Council, Inc.

Offices, Showrooms, Warehouses: Atlanta, Baltimore, Beverly Hills, Boston, Buffalo, Chicago, Cincinnati, Cleveland, Corona, Dallas, Denver, Detroit, El Monte, El Segundo, Fresno, Greensboro, E. Hartford, Hempstead, Houston, Ironton, Jackson, Jacksonville, Kansas City, Little Rock, Matawan, Memphis, Miami, Milford, Milwaukee, Minneapolis, New Orleans, New York, Philadelphia, Portland, Salt Lake City, San Antonio, San Bernardino, San Diego, San Francisco, Santa Clara, Seattle, Sepulveda, Tampa, Washington, D.C., Zanesville. *Representatives:* Birmingham, Fair Haven, Oklahoma City, Pittsburgh, Spokane, St. Louis. *Distributors:* Albuquerque, Hato Rey, P.R., Havana, Honolulu, St. Louis, Quebec. *Plants:* Corona and El Segundo, Calif., Jackson, Miss., Little Rock, Ark., Matawan, N.J., Ironton and Zanesville, Ohio.

AMERICA IS ENTERING THE CERAMIC TILE AGE

LITERATURE

switchboards, motor control centers, power distribution centers, and all types of panelboards and busway. Among the many features of this publication are: product selector charts, descriptions, consolidated pricing tables, and a catalog number index. Also included are ratings, weights, dimensions, standard package quantities, ordering directions and general application information. (92 pp.)

AIA FILE NO. 31-C-1

MFR: DISTRIBUTION UNIT, GENERAL ELECTRIC CO.

Circle 333

ELECTRICAL WIRING SYSTEMS

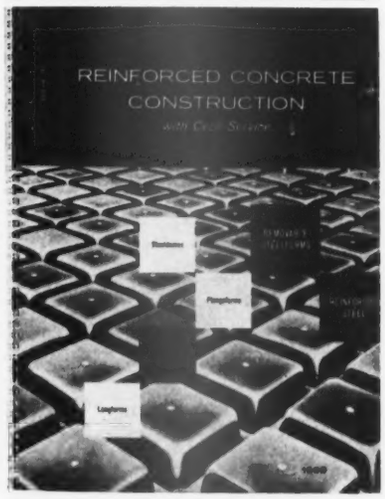
Data manual *Q-63* on electrical wiring systems, is offered. It demonstrates how mfr's *Q-Electrical* wiring systems for cellular-steel flooring and cellular-strip systems provide electrical availability and flexibility for changing requirements. Specific information on systems is detailed in four sections including, roughing-in materials, finish materials, layout design and installation data as well as specifications and dimensional drawings of mfr's fittings. (56 pp.)

AIA FILE NO. 31-C-62

MFR: H. H. ROBERTSON CO.

Circle 334

CONCRETE



REINFORCED CONCRETE

Manual *4002-C* is offered which describes advantages and new design techniques of monolithic lightweight concrete joist construction. The wire-bound manual contains isometric details and cross section drawings of mfr's concrete joist construction with tabulated data for steeldomes, flange forms, adjustable forms and long forms. It is fully illustrated with de-

← Circle 132 for further information about MOSAIC TILE

for approximately

per sq. ft.

you can reduce heat transfer through a brick cavity or concrete block wall up to 50% or more with water-repellent

ZONOLITE® MASONRY FILL INSULATION*

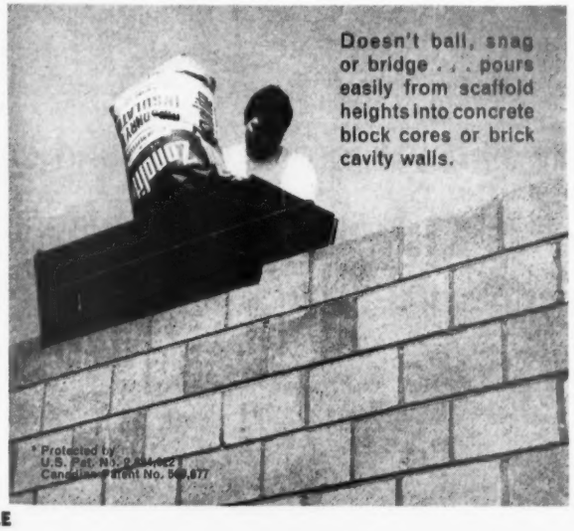
By doubling the thermal efficiency of most masonry walls, Zonolite Masonry Fill Insulation saves money and increases comfort.

This new insulation often pays for itself while a building is in the planning stages. Because of its high efficiency, smaller, less costly heating and air conditioning units frequently can be used. Savings on this equipment pays the low cost of Zonolite water-repellent Masonry Fill Insulation.

The approximate installed costs per sq. ft. of insulating walls of different sizes are:

10¢ for 6" concrete block or 10" brick cavity walls
13¢ for 8" concrete block walls
21¢ for 12" concrete block walls

Savings in operating costs were demonstrated in a study of a standard U.S. Corps of Engineers Army Barracks Building, conducted for the Vermiculite Institute by J.N. Pease & Co., architectural and engineering firm of Charlotte, N.C.


Doesn't ball, snag or bridge . . . pours easily from scaffold heights into concrete block cores or brick cavity walls.
* Protected by U.S. Pat. No. 2,554,622 Canadian Patent No. 569,877

It showed that by insulating the walls of a two-story concrete block barracks, an $800 saving could be realized in the cost of the heating plant, thus paying more than half of the cost of the Zonolite Masonry Fill Insulation.

If the building was air-conditioned, the total cost of the insulation would be recovered before the building was occupied.

This unique insulation offers other benefits as important as its economy:

COMFORT: Interior wall temperatures are brought closer to skin temperatures. Radiant heat exchange is reduced about 30%, providing greater comfort, winter and summer.

WATER PERMEABILITY: Field experience and laboratory tests prove that even if rain penetrates the exterior wythe (and it probably will) water will not be transmitted across the cavity, due to the patented water-repellency feature of the insulation.

SETTLING: It doesn't.

All these characteristics are confirmed in tests conducted by Penn State University and the Structural Clay Products Research Foundation.

You'll want complete data and specifications on this remarkable new way to insulate masonry walls. Phone your Zonolite Sales Engineer, or write:

ZONOLITE COMPANY
Dept. AEN-21
135 South La Salle Street • Chicago 3, Illinois

Circle 133 for further information

LITERATURE

tails and on-the-job construction photos. In addition, the manual describes related items such as anchorage devices, underfloor electrification, ceiling construction, reinforcing bars, spirals, welded wire fabric and accessories. (68 pp.)
AIA FILE NO. 4-E-6
MFR: CECO STEEL PRODUCTS CORP.
Circle 335

PRESTRESSED CONCRETE

Unlimited applications for high quality, prestressed concrete are described in 16 studies of outstanding prestressed concrete projects in current publication. A prestressed lift slab, 120 feet long prestressed bridge girders, and a 2 million gallon prestressed water tank are some of the projects as both pretensioned and post-tensioned projects are studied. The role played by *Pozzolith* is also treated in Bulletin *MBR-P-13*. (20 pp.)
AIA FILE NO. 4-E-12
MFR: THE MASTER BUILDERS CO., DIV., AMERICAN-MARIETTA CO.
Circle 336

PLASTICS

PLEXIGLAS MANUAL

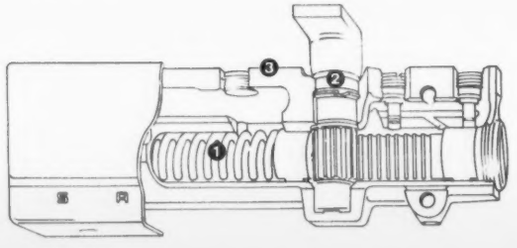
How To Work With Plexiglas gives detailed information on machining, forming, finishing, and joining of *Plexiglas* sheets and other acrylic shapes. More than 60 large illustrations cover every process in the working of *Plexiglas*. Machining operations which are illustrated and described include layout, cutting, sawing, punching, drilling, routing, shaping, and turning. Forming by the hand, jig and clamp, plug and ring, drape, blow and vacuum methods are extensively covered. Finishing operations illustrated included hand and machine sanding, filing, scraping, and buffing. (20 pp.)
AIA FILE NO. 26-A-9
MFR: CADILLAC PLASTIC AND CHEMICAL CO.
Circle 337

CROSS-CORRUGATED PANEL

Brochure available on *Rololite*, a cross-corrugated fiberglass reinforced plastic panel in roll form. States how product's continuous length and extra width provide maximum coverage with minimum overlap. Typical installations shown and details provided for patio roof, skylight, and lapping and sealing joint installations. *Rololite* is stocked in 50′ rolls, 40″ wide, and in 2½″ by 9/16″ corrugation, with crinkle finish on both sides. Available in 5 oz. and 8 oz. psf weights; and in seven

Circle 134 for further information→

The only all new line of surface and concealed door closers. Size for size, Sargent's Powerglide Line does a bigger job better.* Meets or exceeds the U.S. Federal performance specifications for conventional



***SARGENT POWERGLIDE LINE EXCLUSIVES**

1. heaviest spring in a rectangular closer . . . **works under less stress in longer chamber.**
2. bearing seats machined directly in closer body . . . **assures perfect alignment of needle bearings.**
3. extra thick iron case—and heavy-duty spindle . . . **provide added strength, longer life.**
4. two springs and double chamber for **greater checking capacity on larger sizes.**

TM

type. For all applications, all door sizes...exterior and interior. Call your Sargent supplier or write Sargent & Company, New Haven 9, Conn. In Canada: Sargent of Canada Ltd., Box 328, Petersborough, Ontario.

TM The newest fashion in a complete line of architectural hardware

colors: snow, clear, yellow, canary, beige, tangerine and nile green.
AIA FILE NO. 26-A-9
MFR: FILON PLASTICS CORP.
Circle 338

ACRYLIC SHEETS

Current bulletin contains complete information on handling, machining, forming, cementing, and annealing of low-cost *Cadco* extruded acrylic sheets. Includes table of properties and four pages of light transmittance charts, including comparison with cast sheet. Catalog sheet listing available size and color ranges in flat and corrugated sheets is enclosed. (12 pp.)
AIA FILE NO. 26-A-9
MFR: CADILLAC PLASTIC & CHEMICAL CO.
Circle 339

MISCELLANY

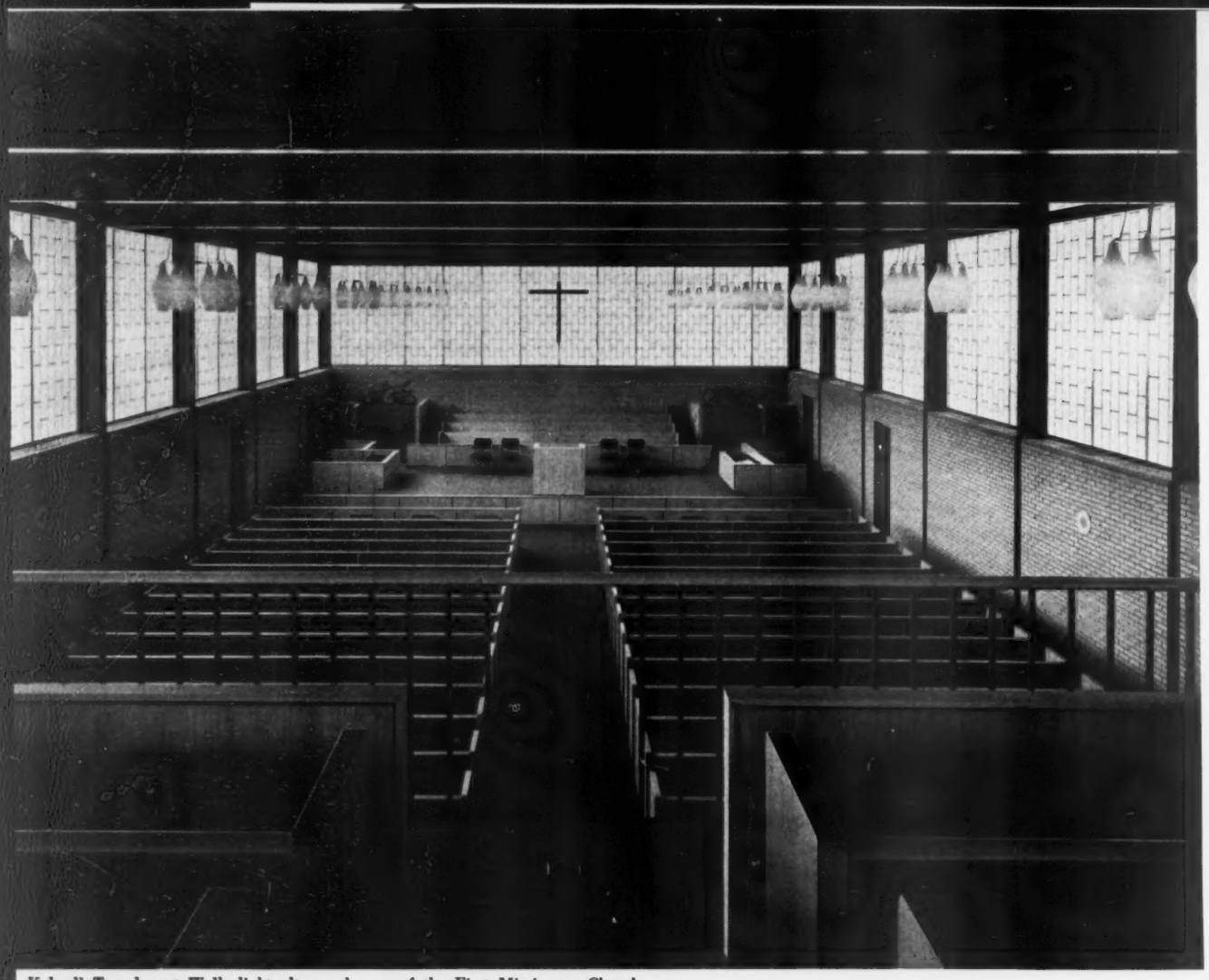
GLASS CATALOG

Current catalog covers 1961 line of rolled, figured, and wired glass patterns for installation in industrial, commercial, school, church, and institutional buildings. Profusely illustrated with typical installations, the catalog also contains actual photographs of individual patterns accompanied by light distribution charts and transmission data. (20 pp.)
AIA FILE NOS. 26-A-3, -5, -6
MFR: MISSISSIPPI GLASS CO.
Circle 340

WEATHERSTRIPPING CATALOG

Full size details and specifications are given in 1961 catalog of extruded aluminum and bronze weatherstripping for doors, windows, saddles, lightproofing and soundproofing, sliding doors, and saddles for floor

←Circle 134 for further information



Kalwall Translucent Walls light altar and nave of the First Missionary Church, Berne, Ind. Architect: Orus O. Eash, A.I.A.; Contractor: Habeggar Construction Co.

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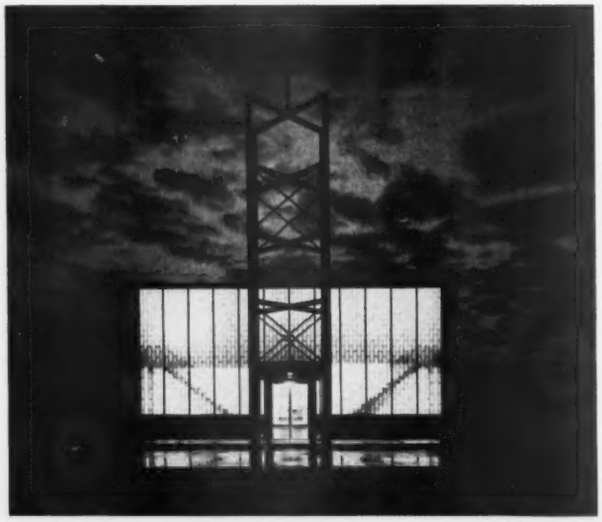

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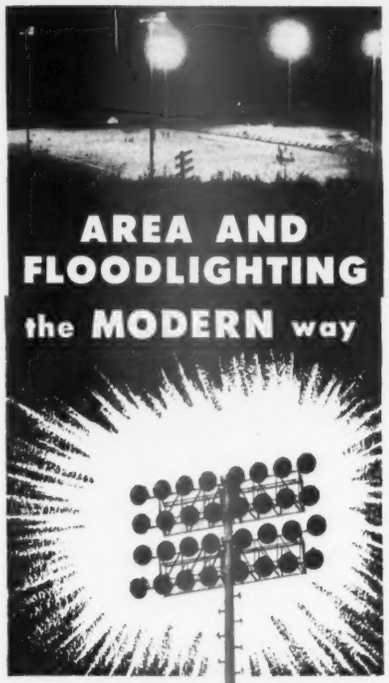
LITERATURE

hinged doors. Recently developed products shown include: new sound insulation twin-seal saddles; adjustable astragals with or without wool pile inserts; and special door top protectors against water seepage in curtain wall construction. (28 pp.)
AIA FILE NO. 35-P-6
MFR: ZERO WEATHER STRIPPING CO., INC.
Circle 341

PAINT GUIDE
A guide to mfr's paint line is offered, which is designed specifically for architects and engineers. The guide features a chart listing all pertinent facts on mfr's paints. Included in the guide is a section about conditions that adversely affect painting—a series of handy tips to prevent paint failure through faulty application. (20 pp.)
AIA FILE NO. 25
MFR: THE O'BRIEN CORP.
Circle 342

OFFICE PAPER CONVEYOR
Recent bulletin describes conveyor device for movement of paperwork in office. Conveyor unit consists of drive unit at each end and divided belt carrier for paper traffic.
AIA FILE NO. 35-H-2
MFR: MERCURY INDUSTRIES, INC.
Circle 343

←Circle 135 for further information



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POTENTIAL HEAT OF MATERIALS IN BUILDING FIRES

DIGEST: 26

A quantitative test method for measuring potential heat contribution of building materials in fires has been developed by NBS and applied to a variety of materials, using techniques suggested by a recent standard of the French government.

INTRODUCTION

A differential bomb calorimetric procedure for measuring quantitatively the actual potential heat (in Btu per unit weight, volume or area) of materials in building fires has been developed by the National Bureau of Standards, and applied to a wide variety of materials. The method, a modification of a recent standard of the French government,[1] resulted from a study conducted by members of the Bureau's Fire Research Section. The findings show that the method provides a useful tool for quantitative evaluation of the potential heat contribution of building elements when subjected to fire.

At present, building codes contain various requirements with respect to the "noncombustible" properties of materials to be used in different portions or types of buildings.[2] Although the extent to which building materials burn and add heat to fires is thus considered important by building code officials, the commonly used noncombustibility test methods usually measure some combination of the flammable, smoldering, and heat release properties of a material. However, the results are usually of a qualitative nature with emphasis varying, depending on the material and test method used. The method studied at the Bureau now appears to provide a procedure for measuring the heat release of materials under standardized conditions and independent of flammability and smoldering properties. Recently, various methods for quantitative measurement of heat release have been considered. The Factory Mutual Assn. has described a calorimetric furnace to measure heat release rates for 4' square test samples of construction.[3] And the French government test method, which was the basis for the method developed by the Bureau, makes use of a differential oxygen bomb calorimetric procedure. In the Bureau's method, calorimetric measurements are performed on the test material both before and after exposure to a "standardized fire" (two hours in an oxidizing atmosphere at 750° C). The difference may be considered the potential heat.

This procedure has been applied to various materials, including metals, and the results appear to be consistent with behavior of these materials in actual fires.

The method has been found to be particularly well suited for measurements on materials of low combustibility. For such measurements, a combustion promoter whose heat of combustion is accurately known can be added, so that complete burning of small quantities of combustible in an otherwise inert material is assured. In fact, it has been found, by comparison of computed and measured potential heat of mixtures of hydrated plaster and charcoal, that the method is capable of measuring combustible content in amounts as low as 1 or 2 per cent.

The method also is designed to yield realistic potential heat values for materials, including some metals, which are completely burned in an oxygen bomb calorimeter, but which contribute only small quantities of heat in actual building fires.

TEST METHOD

The steps involved in the test method are as follows: Two samples are removed from the materials to be tested. One of these is ground, pelletized, and then burned in a pressurized oxygen bomb calorimeter, yielding a measure of the gross heat of combustion of the material. With materials of low combustible content, an equal weight of calorimetric standard benzoic acid, the combustion promoter, is added prior to pelletizing the specimen for test. This ensures complete burning of the combustible fraction. A second specimen, of about ½" by ¾" by 3" in size, is fired by exposure to the oxidizing atmosphere of a muffle furnace for two hours at a temperature of 750° C. The weight loss of the specimen is noted, and the residue remaining is ground or pulverized. A portion of this resulting powder corresponding to a known weight of the original material is mixed with the benzoic acid promoter, pelletized, and burned in the calorimeter.

Corrections are made for the heat contributed by the benzoic acid, and the difference in heating values of the two specimens is reported as the potential heat.

The selection of the standard fire exposure conditions to which the specimen is subjected in the muffle furnace ensures the complete combustion of the fuel fraction in cinder concrete and the oxidization of carbon resulting from the pyrolysis of wood. The temperature of 750° C has long been used in combustibility test method both in the United States and abroad, and is high enough to cause many reactions which occur in building fires. In the case of metals, for example, magnesium ignites under the firing conditions while aluminum melts without becoming inflamed. These are results typical of fire experience.

RESULTS WITH VARIOUS MATERIALS

Materials studied (*see Table 1*) included woods, plastics, metals, insulation materials of various types, concretes, and plasters. Their potential heat values ranged from −290 Btu/lb for gypsum plaster to over 17,000 Btu/lb for polystyrene. Negative potential heat values are indicative of endothermic reactions occurring during the muffle furnace exposure. The negative value for gypsum results from at least partial chemical decomposition of the hydrated gypsum.

Materials such as brick, asbestos-cement board, and some concretes showed very low potential heat, whereas cork, polystyrene, and asphalt-impregnated building paper produced very high values. Expanded metal lath, and gypsum lath and wall board exhibited potential heat values which were low but not zero. Some of the "non-combustible" insulation materials also showed low (but not negligible) potential heat. The potential heat for glass fiber material resulted from the phenolic binder.

The potential heat values for expanded slag, shale, and siliceous aggregates were nearly zero. The potential heat for the concrete incorporating a calcareous aggregate was slightly negative. This latter result would be expected because of the heat absorption required for calcination of the aggregate. However, the cinder aggregate concrete specimens exhibited significantly positive values of potential heat.

The plaster specimens showed low or negative potential heat values which were not as high as those of gypsum wall board. The latter were affected by combustion of the paper facing and of the finish. Of the metals tested only steel, copper, and brass did not melt at the muffle temperature. However, with the single exception of magnesium, the oxidation of the metals was not severe, and potential heat should be considered low but not zero.

During the studies performed, only one material, graphite, failed to burn in the bomb, but was consumed in the firing process. Charcoal, on the other hand, which comprises carbon with chemically bonded hydrogen, readily burned in the bomb.

With woods and plastics, the quantity of residue (ash) remaining after firing was so small that it was not necessary to make a calorimetric determination on the residue, and the potential heat was considered equal to the gross heat of combustion.

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   b. National Fire Protection Assn. Committee on Build-

DIGEST: 26

ing Construction—"Standard Types of Building Construction—Definition of Noncombustibility," NFPA No. 220-1956, (*National Fire Codes*, Vol. III, 1960-61).

c. American Society for Testing Materials Committee E-5. "Tentative Method of Test for Determining Noncombustibility of Elementary Materials" ASTM E-136-59T, ASTM Standards 1959.

d. British Standards Institution "Fire Tests on Building Materials and Structures—Combustibility Test of Materials" British Standard 476:53, 6-7.

e. N. P. Setchkin and S. H. Ingberg. "Test Criterion for an Incombustible Material" *Proc. ASTM* V 45, 866-77 (1945).

3. N. J. Thompson and E. W. Cousins. "The FM Construction Materials Calorimeter," *Quarterly of the National Fire Protection Assn.* V. 52, No. 3, Jan. 1959, 186-192.

TABLE I

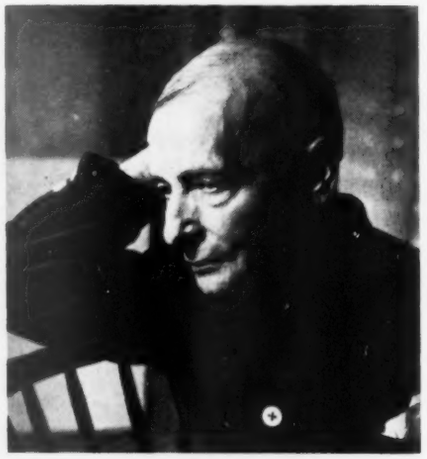
POTENTIAL HEAT OF SELECTED BUILDING MATERIALS TOGETHER WITH FLAME SPREAD INDEX

Material	Thickness	Density	Potential Heat			Flame Spread Index
			Weight Basis	Volume Basis	Unit Area Basis	
	in.	lb/ft³	BTU/lb	BTU/ft³	BTU/ft² [a]	
1. Woods						
a. Douglas fir, untreated	¾	38.0	8400	319 x 10³	—	69
b. Douglas fir (retardant treatment "A")	¾	37.2	8290	308	—	5
c. Douglas fir (retardant treatment "B")	¾	47.2	7860	371	—	3
d. Douglas fir (retardant treatment "C")	¾	38.8	7050	274	—	1
e. Maple, soft, untreated	1	39.5	7940	314	—	82
f. Hardboard, untreated	¼	59.8	8530	510	—	150
2. Plastics						
a. Polystyrene, wall tile	0.075	65.4	17420	1140	—	335
b. Rigid, polyvinyl chloride, retardant treated	0.147	86.0	9290	799	—	10
c. Phenolic laminate	0.063	76.4	7740	592	—	107
d. Polycarbonate resin	¼	78.7	13330	1050	—	56
3. Insulation						
a. Glass fiber, semi-rigid, no vapor barrier	1	3.0	3040	9.1	—	—
b. Rock wool batting, paper enclosure	3	2.4	1050	2.5	—	—
c. Roof insulation board	1	10.4	3380	35.1	—	61
d. Cork (reconstituted cork sheet)	¼	14.8	11110	164	—	174
e. Cellulose mineral board	2	47.8	2250	108	—	1.3
4. Concrete						
a. Cinder aggregate	—	93.0	3080	286	—	0.0
b. Slag aggregate	—	110.1	80	8.9	—	—
c. Shale aggregate	—	80.5	10	0.5	—	—
d. Calcareous gravel aggregate	—	133.1	−250	−33.1	—	—
e. Siliceous gravel aggregate	—	166.8	−40	−6.7	—	—
5. Cement Board						
a. Asbestos cement board	3/16	117.0	80	9.2	—	0.0
b. Asbestos cement board + 20 mil paint	3/16	159.2	390	62.4	—	0.7
6. Gypsum						
a. $CaSO_4 \cdot 2H_2O$, hydrated neat gypsum	0.41	137.9	−290	−31.3	—	0.0
b. Perlite aggregate plaster, 21% aggregate	1	53.2	70	4.0	—	0.0
c. Sand aggregate plaster, 68% aggregate	1	101.8	−50	−5.4	—	0.0
d. Vermiculite aggregate plaster, 15% aggr.	1	51.2	−90	−4.6	—	0.0
e. Gypsum board "A"	⅜	50.5	760	38.4	—	14.3
f. Gypsum board "A" with paper removed	⅜	46.6	−270	−12.5	—	0.0
g. Gypsum board "A" + alkyd gloss paint	⅜	46.7	880	41.2	—	8.0
h. Gypsum board "B"	½	51.2	650	33.0	—	7.9
7. Lath						
a. Gypsum A	⅜	55.3	310	17.0	—	—
b. Metal diamond mesh	.025	405	1230	—	1370	0.0
c. Metal diamond mesh, paint removed	.019	401	660	—	420	0.0
8. Metals						
a. Structural steel — unpainted	.060	489	230	—	190	—
b. Magnesium	.128	122	10800	—	5400	—
c. Aluminum	.004	165	30	—	0.8	—
d. Brass	.004	534	100	—	8.9	—
e. Copper	.024	556	60	—	32	—
f. Lead	.036	710	280	—	278	—
g. Zinc	—	415	760	—	2390	—
9. Miscellaneous						
a. Paint "E" (dried paint film)	.05	—	3640	—	—	30
b. Asphalt shingles (fire retardant)	¼	70.7	8320	588	—	123
c. Building paper (asphalt impregnated)	.042	42.8	13620	583	—	385
d. Building paper (rosin sized)	.018	23.6	7650	181	—	192
e. Linoleum tile	⅛	86.0	7760	667	—	106
f. Brick, red-face	2¼	139.1	20	2.2	—	0.0
g. Charcoal, coconut	—	—	13870	—	—	—

[a] Based upon total exposed surface area.

Note: All weights and percentages refer to original air-dry weight.

NAMES



FREDERICK J. KIESLER

In Vienna-born architect Frederick John Kiesler one discovers a marvelous symbol and example of that fast-vanishing breed of empiricists—one of the pioneers of contemporary architecture and design. Over 35 years ago, Kiesler was associated as a member of the *De Stijl* group of Dutch architects and also with Vienna architect Adolf Loos. Those then-emerging forces iconoclastically shattered all the pre-conceived architectural conceits and aesthetic mannerism of the entrenched *beaux-arts* tradition.

In those early years of the roaring twenties, Kiesler was director and architect of the International Theatre and Music Festival of the City of Vienna where a full-scale demonstration of his concept of the *Space-Stage* was given in which there is a continuous motion of scenery, co-ordinated with acting, speech and lighting. Among other projects, at that time, was his design of settings for Capek's *R.U.R.* in Berlin where the first use of motion pictures was made to replace painted back-drops on stage. Another pioneering production in experimental theater was his design for the Berlin production of *Emperor Jones* in 1923.

In 1926, he visited the United States with the *International Theatre Exhibition*. He remained in America, became a citizen, and subsequently established his activity in architecture and the visual and performing arts. Over the years, Frederick Kiesler has come to be known for his widespread interests in *avant-garde* theory and practice in all of the arts. His work encompasses many disciplines: painting, sculpture, theatre and opera design, architecture, and the education and philosophy in the modern arts. The variety and scope of Kiesler's aesthetic and intellectual activity provides a key to his work. His close associates consider him as a hard and most demanding task-master. Never content with mere technical solutions, he is continuously seeking to reconstruct form, space, color and texture into new humanistic meanings and new visual language—whether it be the design of an art gallery, a setting for an opera production, or the construction of an idea. His friends describe the work-environment about Kiesler as "drama of the moment."

One of America's leading collectors and enthusiastic patrons of modern art, Horace Richter, has spoken of Kiesler as a man who "does not live on the periphery of his relation with people or his creativity. He is at *one* with his material—easily transposing his material into *His* image—that possibility that exists within all people—that spark of divinity—the creative moment."

Many share Richter's enthusiasm and to the observer it would appear that Kiesler has devoted his life to the pursuit of finding the "divine spark" in each and every project in which he engages. His work seems to seek a unity and reconciliation of a "natural way of life" with the all-too-prevelant diversification in our man-made environment that is created by the forces of modern technology. "We, the inheritors of chaos," Kiesler states, "must be the architects of a new unity."

This search for cohesion and integration of physical form with human behavior finds its best expression in Kiesler's project of the *Endless House*. Recently, this project received a major showing at the *Visionary Architecture* exhibit of the Museum of Modern Art in New York.

According to Kiesler, the form of the *Endless House* is not a "free-flow art form", as many suspect, but is stated to derive from the process of living, a life dedicated to fundamentals rather than to mechanized equipment and interior decoration, or to a return to primitivity.

The house is conceived as a continuous reinforced concrete shell containing a series of carefully defined spaces (according to functional use). Each of the varied areas may be closed off from the others, or if necessary, be opened up, making one continuous space—an Endless House.

Kiesler has examined every facet of the planning, functional and mechanical requirements of such a house. In designing his project, he has made every requirement whether it be lighting or furniture or comfort, integral part of the entire form. Materials have been used to express a sculptural character of the entire ensemble and yet provide a flexibility in arrangement based on current and future needs of its inhabitants.

Kiesler notes that, "while the concept of the house does not advocate a return to nature," it certainly does encourage a more natural way of living, and a greater independence from our constantly increasing automative way of life."

This house generated a wealth of comment —both surprised and stimulated. However, his work characteristically evokes this response. On one occasion, the opening of the Guggenheim *Art of This Century* exhibition in 1942, New York Hearld-Tribune art critic, Emily Genauer was moved to write, "going through the rooms is a mystifying and delightful experience. You feel like a child with a new toy that does all sorts of unpredictable things. . . Frederick J. Kiesler, modern architect and designer . . . did a job to make exhibition history."

This element of the "unpredictable" in Kiesler's work is characteristic of his efforts and is a source of surprise and delight to the beholder. Frederick Kiesler is in the sixth decade of a very creative life. We dare to predict that he will continue to surprise and delight us in the years to come. *JJC*

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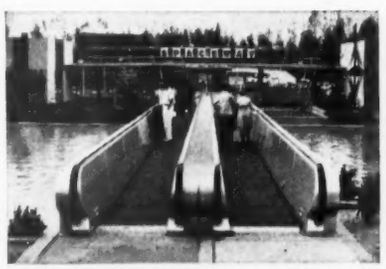

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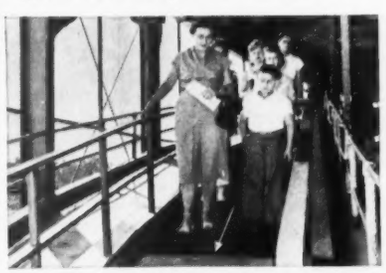

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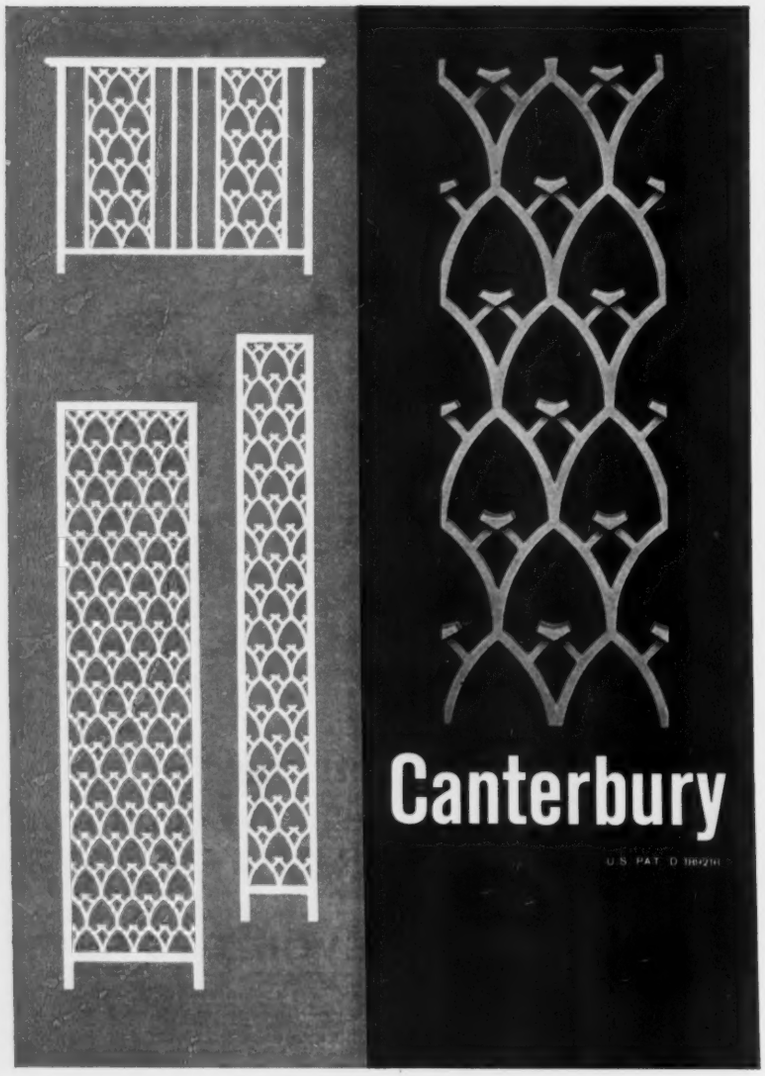

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EDITORIAL

Urban affairs, urbane affairs & John Crosby

The curious title given above lumps three fragments into this omnibus editorial. Outwardly, they appear dissimilar—but we believe they are highly interconnected when viewed with a second, more patient glance. It is with pleasure that this writer welcomes The American Institute of Architects' support of the proposed creation of a Federal Department of Urban Affairs. The AIA has called upon the building industry to unite and close ranks in helping with the monumental task of building more beautiful and livable cities.

In order that planning criteria may be created for communities seeking Federal aid, AIA president Philip Will, Jr., FAIA, has called for a more effective partnership between government and the active participation of a united building industry. "These criteria should call for comprehensive planning which must include highways, mass transit, utilities, water supply, open spaces, and all the rest. In other words, we need a comprehensive community plan before we attack any single problem or facet."

We urge all of our colleagues in the design professions to support the AIA in this proposal and to help our professional organizations spearhead this drive toward a finer and more beautiful America. For our part, we are delighted to add our small voice to enable the vision of the moment become the reality of tomorrow.

Urbane affairs & John Crosby: In New York City, one of the morning's pleasures is to pick up a copy the New York *Herald-Tribune* and to read the talented and informed musings of one John Crosby (*Crosby's Column*). Mr. Crosby, we are certain, is no stranger to our readers. For years, he has been associated with some of the most incisive and most pointed comment on the ephemeral affairs of that most ephemeral of entertainment media—television. In recent weeks, however, Mr. Crosby has emerged as somewhat of a bigger-than-life hero to *this* reader for his courageous and most devastatingly-aimed barbs at the contemporary Gotham scene. Mr. Crosby now employs his multifarious intellectual gifts in writing a very lively and provocative column on every facet of human activity. Mr. Crosby, no longer quite *muses*—I am pleased to report. To *muse* is far too gentle and insipid a word for his challenging and stimulating prose. Recently, among his most notable achievements has been a thundering and foot-stomping piece which cut at the ugly roots of the muddy, unhallowed ground of the speculator on the New York building scene:

"Even primitive people had higher building standards than ours, which today stand lower than at any time in history. Today's buildings—with very few exceptions—are not only architectural monstrosities; they are also poorly built, cold, inefficient, uncomfortable, and expensive. The rights (as if he had any) of the tenant are totally sacrificed to the greed of the builders and the owners. But that's by no means all. The rights of the city are totally ignored." (Crosby's Column: Winds of Discontent, N.Y. Herald-Tribune, 12/26/60.)

And from the same inspired article, Crosby comments on the destruction of our architectural and community tradition—in our cities and our towns:

"In America, our landmarks and our boundaries merge, shift, and change quicker than we can tell: one day we feel rooted, and the carpet of our experience is a familiar thing upon which we securely stand. Then, as if by some conjuring trick, it is all yanked out from beneath us, and when we come down, we alight upon—what? . . . Only fools lament change itself . . . (but) . . . "Bring back the greenery, bring back the leaves."

"No other civilized city I know (except Tokyo) has been given over to the barbarians so completely as New York. Nowhere else are the laws so backward while the real estate boards prattle about inexorable economic laws which mean only the right to rape the city's leisure. Every civilized city except this one protects its citizens—gives them sidewalks to walk on, parks to play in, husbands its beauty spots, takes civic pride in its culture. New York has sold its soul to the real estate interests."

There are those who dispute Mr. Crosby's contentions. However, one cannot but admire his courage and his wonderfully, refreshing candor in a leading and influential newspaper. His contribution is all the more remarkable because few men in his profession have the intellectual and moral stamina to dig at the root-core of this kind of stupid and vulgar mismanagement of our urban culture.

In his way, Crosby has made public the cause of the architectural profession which itself is seeking those means and processes whereby America's cities may realize a second-coming—the return to beauty, the preservation of our architectural landmarks, our historic traditions, and the restoration of the urban life to its inhabitants—wresting it, as it were, from the darkening smog and the gas-fired belch of the ubiquitous automobile.

May we respectfully submit that John Crosby has performed (via this and other writings and his TV program) a distinguished service to the architectural profession? We wish to be among the first to urge upon our colleagues that they will be honoring their profession by bestowing upon Mr. Crosby one of its highest honors—Honorary Membership in The American Institute of Architects.

America and the architectural profession need many more John Crosbys. The valor of a John Crosby is indeed a rare and beneficial gift—especially when viewed in perspective from the top of the communications mountain—dominated and crowned as it is with specious nonsense, mendacious bird-braining, and the incessant, drum-beating climate of abysmal mediocrity. Crosby *is* a man of our time—a jet-age muckraker—a good and divine friend of architecture. This gentle and soft-spoken man has a great way of pinpointing the awful truth on those things which afflict the cultural and urbane environment in this the latter—but madly onrushing half of the 20th century—*JJC*

DOCUMENTS

The documents listed below are available through the associations and agencies cited. All requests should be directed accordingly.

National Electrical Manufacturers Assn., *155 E. 44th St., New York 17, N. Y.*

Room Air-Conditioners, *CN 1-1960. $.30.*

A cooling load estimate form has been added to this booklet. The form is suitable for estimating the cooling load for comfort air-conditioning installations which do not require specific conditions of inside temperature and humidity. Also contains definitions, rating standards and test procedures for room air-conditioners.

Industrial Heating Units and Devices, *HU 1-1960. $.30.*

Covers cartridge, tubular, strip, immersion, and tubular-type water-immersion heaters. Section dealing with cartridge heaters has been revised and expanded to include dimension nomenclature, sheath length and wattage ratings.

EEI-NEMA Standards for Voltage Classification of Luminaires Used in Street and Highway Lighting, *SH 3-1960. $.25.*

The voltage classification and dielectric testing of luminaires used in street and highway lighting are covered.

Superintendent of Documents, *U. S. Government Printing Office, Washington 25, D. C.*

Standardization Activities in the United States—A Descriptive Directory *by Sherman F. Booth. National Bureau of Standards Miscellaneous Publication 230, 1960. 210 pp. $1.75.*

Provides a descriptive inventory of the work and objectives of organizations, both public and private, involved in standardization activities. Each organization is listed alphabetically with a brief description of its standardization area and accomplishments. A comprehensive index covers such product areas as ceramics, plastics, electrical equipment, rubber, cement, etc., and lists the organizations in each field. Not only products are standardized, but also materials, methods, techniques, sizes, nomenclature, services and other areas.

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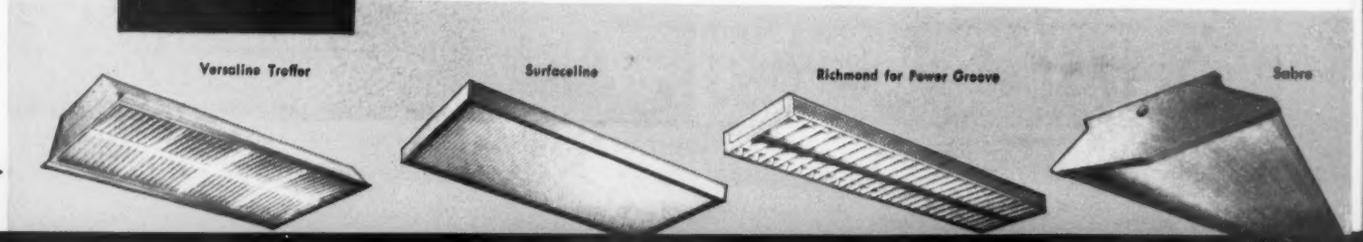

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BOOKS

Erecting Structural Steel *by Samuel P. Oppenheimer, P.E. New York: McGraw-Hill Book Co., Inc., 1960. 272 pp., illus., $9.50.*

Ranges in coverage from basic planning of structures to the installation of roof and beams. Types, names, descriptions, and uses of equipment are described, as well as the many other factors involved in structural erecting, such as tools, scaffolding, work methods and erection procedures. Gives information on recent developments in such areas as reinforced concrete structures, the structural steel frame, and miscellaneous iron, including stairs, fire escapes, and structural door frames. In addition, it provides facts on slewing and automotive cranes, welding guns, high-strength bolts, and other types of modern equipment. Illustrations, sample work-control and office forms, and examples of computations add further clarity to the discussions.

Engineering Data Processing System Design, *by Arthur D. Even. Princeton, N. J.: B. Van Nostrand Co., Inc., 1960. 282 pp., illus. $6.50.*

Presents a study and discussion of and a practical guide to the mechanization of manual operations in an engineering department concerned with the preparation of engineering drawings, parts lists, and allied reports and records. The next step, then, would be conversion of the mechanized system to an electronic data processing system. Coverage includes the use of microfilm and punched cards, and shows the need for work-routine simplification, needless-work elimination, and staff retraining in any system improvement plan. The author is a management consultant.

Beaches and Coasts *by Cuchlaine A. M. King. New York: St. Martin's Press, Inc., 1959. 403 pp., illus. $14.50.*

Intended for civil engineers and others engaged in research or planning on beach and coast. Includes some of the recent work on coastal problems and cites examples from all over the world. Large part of the text is devoted to waves: first, in a section showing the characteristics of waves which are significant in their effect on the beach; and second, in a chapter giving detailed discussion of the theoretical, experimental, and observational data on waves as they relate to winds, tides, and other influences on the coastline. Methods of survey of beaches discussed.

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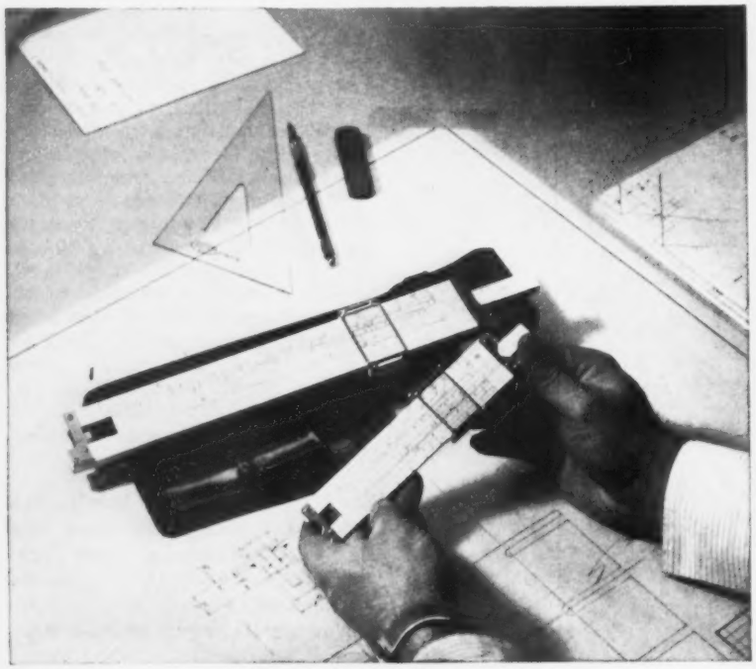
The Theory of Optimum Noise Immunity *by V. A. Kotel'nikov, translated from the Russian by R. A. Silverman. New York: McGraw-Hill Book Co., Inc., 1959. 149 pp., illus. $7.50.*
The verbatim translation of the author's 1947 doctoral dissertation constitutes and extensive statistical analysis of the effects of additive gaussian noise on communication systems, and of what could be done at the receiver to minimize them, using what is now called decision theory techniques. The treatment is at a level that is of practical use to the engineer and is not dependent on advanced mathematics. However, readers should be familiar with Fourier Series, discrete and continuous probabilities and probability densities, and the idea of statistical independence.

Electronic Circuits, Signals, and Systems *by Samuel J. Mason and Henry J. Zimmerman. New York: John Wiley and Sons, Inc., 1960. 616 pp., illus. $12.50.*
Covers matrix circuit analysis, topological circuit analysis, linear signal-flow graphs, flow-graph circuit analysis, signal analysis, transmission of signals through linear systems, nonlinear and time-varying linear systems, the negative-feedback concept and appendix and index. Contains ample worked examples and numerous chapter problems.

Historical Geology, *Second Edition, by Carl O. Dunbar. New York: John Wiley and Sons, Inc., 1960. 500 pp., illus., $7.95.*
Discoveries in atomic physics, geochemistry, astronomy, and vertebrate paleontology have necessitated a rewriting of substantial part of this new edition of this well known textbook. All the bibliographies have been brought up to date, and illustrations used effectively in new, larger format.

Highway Engineering Handbook, *First Edition, compiled by Kenneth B. Woods, Editor-in-Chief. New York: McGraw-Hill Book Co., Inc., 1960. Various paging, illus. $25.00.*
Broadly conceived and authoritatively written by a staff of 48 specialists, this new handbook contains considerable new material concisely presented and standard data well documented. Comprehensive coverage of highway engineering excepting structures.

DRAFTING TRENDS



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14 BOSTON SOCIETY OF ARCHITECTS AND MASSACHUSETTS STATE ASSN. OF ARCHITECTS: AIA district and regional meeting, Boston, Mass.

20-23 AMERICAN CONCRETE INSTITUTE: annual convention, Chase-Park, Plaza Hotels, St. Louis, Mo.

MAR. 1-2 REYNOLDS AWARD JURY: the Octagon, Washington, D. C.

5-8 NATIONAL LIGHTING EXPOSITIONS: and World Lighting Forum, New York Coliseum, New York City.

13-17 NATIONAL ASSN. OF CORROSION ENGINEERS: annual meeting, Statler Hotel, Buffalo, N. Y.

21-30 AMERICAN CHEMICAL SOCIETY: national meeting, Washington, D. C.

28 BUILDING RESEARCH INSTITUTE: plastics study group meeting, Washington, D. C.

APRIL 5-7 GAS APPLIANCE MANUFACTURERS ASSN.: annual meeting, The Greenbrier, White Sulphur Springs, W. Va.

24-28 AMERICAN INSTITUTE OF ARCHITECTS: annual convention, Philadelphia, Pa.

30-3 AIR-CONDITIONING AND REFRIGERATION INSTITUTE: board and annual meeting, The Homestead, Hot Springs, Va.

MAY 14-18 NATIONAL FIRE PROTECTION ASSN.: annual meeting, Detroit, Mich.

16-18 BUILDING RESEARCH INSTITUTE: spring conferences, Shoreham Hotel, Washington, D. C.

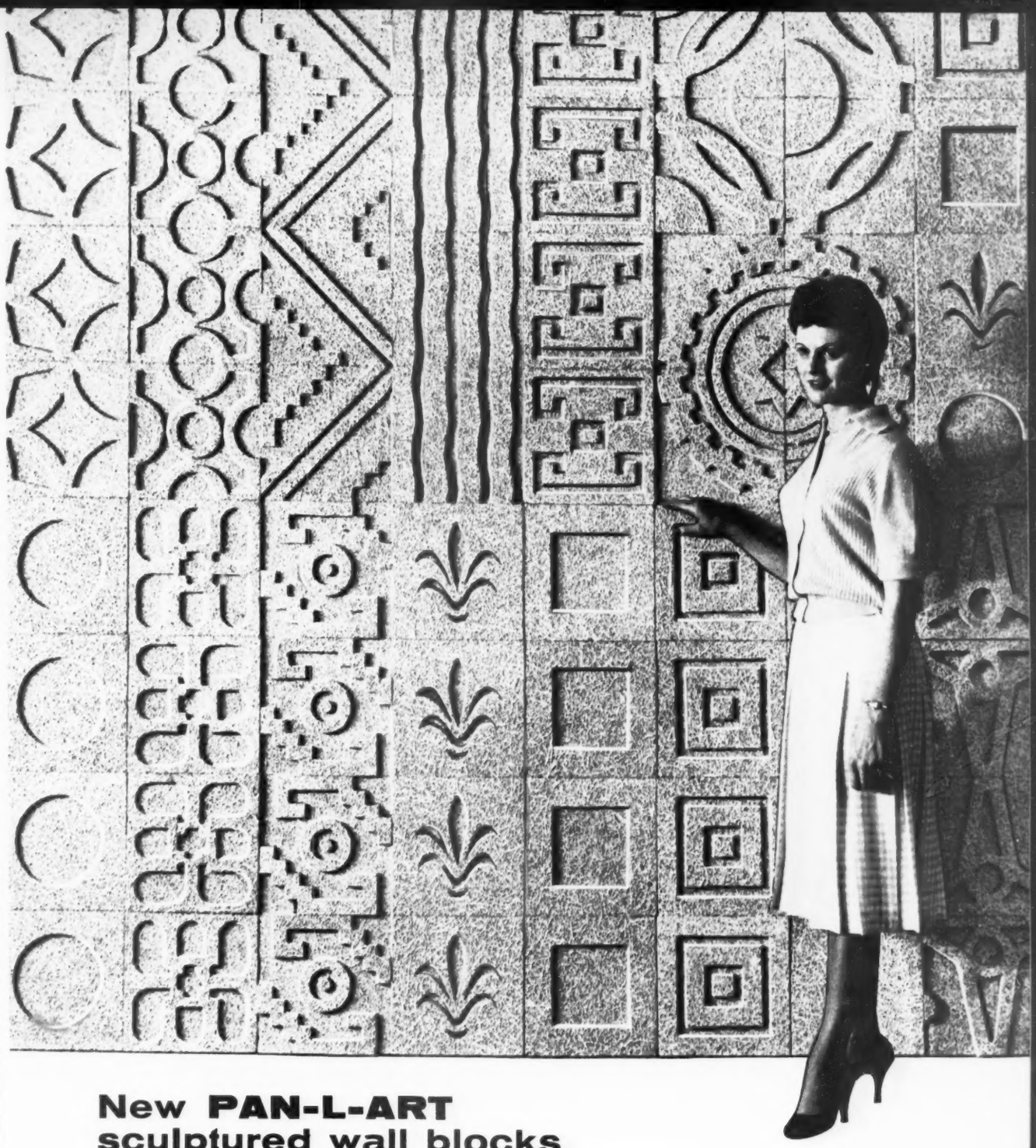
17-21 ROYAL ARCHITECTURAL INSTITUTE OF CANADA: 54th annual assembly, Chateau Frontenac Hotel, Quebec City, Canada.

22-25 DESIGN ENGINEERING SHOW: exposition and conference, Cobo Hall, Detroit.

JUNE 25-30 AMERICAN SOCIETY OF TESTING MATERIALS: national meeting, Chalfonte-Haddon Hall, Atlantic City, N. J.

26-28 AMERICAN SOCIETY OF REFRIGERATING ENGINEERS: annual meeting, Denver, Colo.

JULY 3-7 SIXTH CONGRESS OF THE INTERNATIONAL UNION OF ARCHITECTS: London (for full information write Secretary, Royal Institute of British Architects, 66 Portland Place, London W. 1, England).



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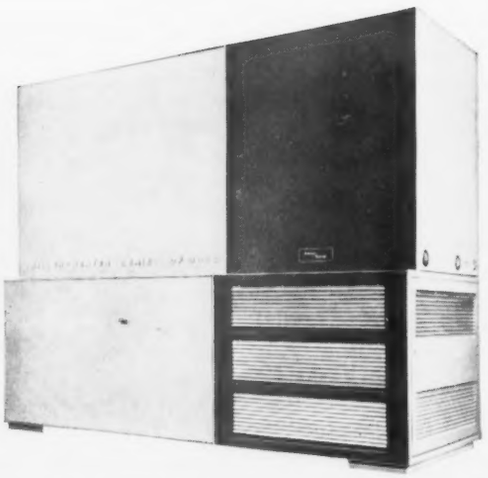

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